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ORIGINAL ARTICLES.

INTERESTING CASES OF APPENDICITIS.

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NEW YORK CITY.

Believing that the results of experience constitute the only true guide to the wisdom and efficiency of any measure, especially one of a surgical nature I have, therefore, no hesitation in placing before you now for the purposes of thought and practice a record of four cases of appendicitis that have come recently under my observation, together with the lessons they teach:

Case 1.—That of E. B. J., M.D., of Pennsylvania, aged 28, and of good habits in all respects. This patient came to my office for consultation and treatment June 13, 1894, with the following history:

1. Had always been in good health up to the time of the first attack of appendicitis.

2. Had suffered from four attacks of this disease before coming to my notice, from the last of which he had just recovered.

The first attack happened without apparent cause, during the last week in November, 1893, six months before I saw him. This attack was a slight one, lasting but three or four days, and was not severe enough to prevent proper attention to office duties. The second attack happened about six weeks later, and was not severer at the outset than the first one. This attack lasted four days, and on the second day a slight chill occurred, attended with some elevation of temperature. Subsequent to this attack, tenderness in the right ileo-inguinal region was constant in a varying degree. No definite tumor was discernible. The third attack was about three months after the second one, and it will be noticed that this was the severest attack of all. This, like the others, came without apparent cause, but unlike them was announced by a sudden, severe sharp pain which obliged the patient to go to bed at once, where he remained for the next four weeks. During the greater part of this time he had a marked elevation of temperature which, however, did not reach above 101 F. per rectum during the entire course of the attack. A hard, tender tumor made its appearance in the right iliac region during this attack which increased to the size of one's fist; then gradually diminished in size and sensitiveness but did not wholly disappear. The fourth and final attack occurred May 30, 1894, or only about two weeks after recovery from the third. This attack resembled in all essential respects the first and second ones. At all events, following this one the patient made a long journey by rail and reached this city June 13, 1894.

A physical examination at the time of arrival disclosed a hard, tender and somewhat movable tumor, about the size of a hen's egg, located in the ileo-inguinal region, somewhat nearer the brim of the pelvis than to the iliac spine. Rectal examination revealed nothing abnormal. In all other respects the patient was in as satisfactory condition as the fatigue of the journey and previous illness would warrant. Since the patient had come expressly for the benefits of an operation, and was professionally qualified to estimate the advantages and dangers attending it, and was anxious for immediate action, he was sent at once to St. Vincent's Hospital, where it was performed on the following day in the presence of many of the visiting and the house staff of the Hospital. I will not weary you with extended details of this operation, which are already worn threadbare by repeated description from other sources, but rather submit at once, in one, two, three order, those phases of it that are always essential to advancement; that is, the disclosures attendant on the procedure. At this time it seems proper to say that, owing to the nearness of the tumor to the pelvic brim, and the mobility and ease of its delineation, I expressed the opinion before operation that the diseased appendix extended downward and inward to, and possibly over the brim of the pelvis, and had a long mesentery. The incision made through the abdominal parietes was about five inches in length, and was located about two inches from the anterior superior spine of the ilium and directly upon the inner portion of the ileo-inguinal tumor. No difficulty was experienced in exposing the tumor, which was found to consist of the major part of the appendix surrounded by abundant inflammatory exudation. Only the extreme end of the appendix—about one-half inch—was entirely free from the exudation. This extremity was attached slightly to the peritoneum covering the brim of the pelvis; so slightly, in fact that, although easily detached, there was great danger of rupture, as the structure was frail by reason of internal ulceration.

No adhesion between the tumor and the anterior parietal peritoneum existed, nor was there evidence of present or past suppuration. The tumor was located below the so-called cecum, was attached to its under surface and extended toward the cavity of the pelvis. No evidence of complete perforation of the appendix could be found. Great difficulty was experienced in exposing the portion of the appendix imbedded in the exudation. During the course of the manipulations directed to this object, the frail pultaceous extremity of the organ was easily torn off. However, this accident afforded the opportunity at once of passing a small grooved director into the remaining portion of the appendix for about one inch, then an obstruction was met which was found to be caused: 1, by a complete occlusion of the lumen at that point and 2, by a nearly right-angled bend of the organ. This portion of the appendix and the super-imposed lymph were divided with scissors, thus exposing the lumen to the point of constriction. Afterwards, with some difficulty, the constriction was overcome, and a probe was passed through the remaining inch of the appendix into the caput coli. This, the latter part of the appendix, was much dilated and contained offensive fluid material, while the remaining portion of the organ contained inoffensive pultaceous matter. The appendix was tied within one-half inch of the cecum and the remaining external portion was slit up in the manner before described and cut off at the seat of ligature. On account of the obstinate capillary oozing that attended all efforts to dissect the appendix from its environments, a complete removal was not accomplished. However, all offensive matter was scraped away together with much of the appendix itself, the external incision was reduced to two inches in length by wire sutures; the wound, after thorough disinfection, was lightly packed with iodoform gauze, and the patient was put to bed.

The remaining portion of the history is entirely uneventful. The temperature at no time rose above 101.4 F. per rectum, and after a few days subsistence on milk, koumiss and the like, he was permitted to partake of a more substantial diet. At the end of two weeks he was allowed to sit up, and was discharged about four weeks after operation. At the time of discharge there was a very small sinus, thread-like in size, leading down into the wound. This was due no doubt to the presence of the silk ligature there, employed to tie the appendix.

Case 2.—A. F. S., farmer, aged 45, temperate and with good family history. This patient came under my notice through the advisement of Dr. L. J. Brooks, of Norwich, N. Y., on June 18, 1894, with the following history:

Had always enjoyed good health until the summer of 1893, during which season he had suffered from occasional diarrhea and uneasy sensations in the "right side of the belly," as he expressed it. Suddenly, in September, 1893, he was attacked with severe pain at the right side of the lower

part of the abdomen, and for this reason was obliged to go to bed, where he remained for two weeks. Swelling occurred at the seat of the pain and it was tender there. However, the swelling gradually subsided as the attack "wore off." He made a slow recovery, resuming labor some time in November. He did not regard himself as well then, since he was unable to perform the usual amount of labor, and suffered from great despondency at the same time. Suddenly on April 9, 1894, he was again seized with severe pain in the same region, and was confined to bed for eight days.

Since the last attack the patient has had more or less soreness and dragging sensation in the right iliac region, and has been unable to work. The pain attending the attack radiated toward the ribs of the right side and down the right thigh. Following the attack he suffered frequently from a dull pain extending down the left thigh. Neither vomiting nor diarrhea attended the attack and his appetite was unimpaired.

Physical examination revealed no organic disease. In the right ileo-inguinal region a small, slightly tender and movable tumor could be easily outlined. It was situated about two inches from the anterior spinous process of the ilium and extended directly downward; this the patient said had been the seat of all previous acute local pain and tenderness. He was advised to submit to an operation at once, for the double purpose of removal of the appendix and relief from despondency. Accordingly, on June 20, 1894, he was subjected to operation in the presence of the visiting and resident staff of the Hospital. The operation developed the following items of interest:

1. The incision was made directly upon the tumor, as there was no reason to believe that it extended toward the pelvic cavity.

2. It was placed about two inches from the anterior superior spinous process of the ilium.

3. No difficulty was encountered until after the division of the peritoneum. Then there was found to be a thick layer of distorted omentum lying in front of the caput coli. This structure extended down to Poupart's ligament and was everywhere attached to the abdominal wall, except at the outer border of the incision.

4. The caput coli was bound down by old adhesions and rolled outward, so that the fibrous band leading to the base of the appendix could not be seen until after the separation of the gut from the abdominal wall and its normal replacement had been made.

5. The appendix was turned upward and outward below the caput coli in such a manner as to cause the apex to lie to its outer side.

The organ was entirely enveloped in dense lymph, somewhat vascular, but easily separable from the contiguous tissues. There was no perforation of the appendix. The lumen was distended with jelly-like inoffensive products.

6. At the outer side of the upper part of the caput coli was found a small amount of caseous pus, evidently the product of an antecedent inflammation.

Such were the conditions and in the order of their appearance. It may be well now to speak of the technique employed to meet the unusual conditions. The interposition of distorted and adherent omentum is not of common occurrence in my experience. However, the obstacle was easily though slowly overcome by tearing an opening through the tissue over the seat of the caput coli. It was believed that this bowel would promptly protrude as soon as the measure was taken, and consequently expose to view the fibrous band of the colon that leads to the base of the appendix. Such, however, was not the case, as only small intestines appeared and the caput coli was nowhere observable. The edges of the wound were then drawn widely apart, and after careful sponging, an "account of stock" at hand was taken. It was seen after careful scrutiny that the ilium appeared to rise from the anterior surface of the head of the colon instead of the accustomed location, and that the head of the colon was rolled outward, which explained the unique relation of the ilium to it. The adhesions were easily separated, the head of the colon placed in the proper position, the appendix and the surrounding exudate separated *en masse*, appendix tied with a silk ligature, cut and removed. The caseous pus was dissected and scraped away; hemorrhage checked, wound partially closed and dressed as in the preceding case. In this case I think the wound could have been permanently closed with safety. But, inasmuch as pus products might have tainted it, despite the closest attention, I deemed it wiser to treat it by the open method. The patient made an uneventful recovery, the temperature at no time going above 101 F. per rectum, and this for a day only. In two weeks he was permitted to sit up, and in six weeks was sent home in a most cheerful mood.

Case 3.—Mr. S., aged 27, student, good family history. This patient came to my attention on July 3, 1894, in St. Vincent's Hospital, from a neighboring city. He gave the following history: Had been the subject of diarrhea for a long time, before the appearance of any complicating trouble. During the summer of 1891 he had an attack of diarrhea and vomiting, in the course of which he was seized suddenly with a severe pain in the right side, followed by tenderness there and an exaggeration of the first-mentioned disorders. As the result of these manifestations he was confined in bed for five days, but at the end of two weeks he regarded himself well again, notwithstanding slight tenderness yet remaining in the right inguinal region. He declares that he had a fever during this attack. Twice after this, at intervals which he is unable to recall, he was confined in bed for a short time with diarrhea and pain in the right side. Suddenly in November, 1892, he had a severe attack and was confined to bed for two weeks and unable to work for three weeks thereafter. During this attack the axillary temperature was somewhat increased. The exact record is in doubt and will not be quoted. After this attack he was able to attend to his duties with comparative comfort, although he suffered from pain in the side only as the result of indigestion and active exercise. During the last two winters he has been afflicted with a severe cough, which disappeared with the incoming of spring. Thinks he may have had malaria at that time.

Physical examination shows the patient to be organically sound. Slight tenderness can be elicited on deep pressure in the right iliac fossa at the place where previous tenderness had existed. The presence of tumor could not be detected. In view of the long continued trouble and the clear history of previous attacks of appendicitis, as diagnosticated by very reputable physicians of his native place, and the seeming loss of courage to continue his labors without operative aid, I advised prompt operation, which was done on July 9, in the presence of many of the visiting and surgical staff of the Hospital. The following items will be of interest in connection with this case:

1. No tissues were cut except those lying on the aponeurosis of the external oblique and those beneath the transversalis muscle. The opening was made in each of the other tissues by separating the fibers of the respective structures in the long axis at a point directly over the caput coli. The sub-transversalis tissues were divided in the same direction as were those above the external oblique. It is apparent at once that this plan of procedure permits the separated fibers to return to their proper relationship when all restraint is removed, thus securing to the abdominal wall the greatest possible strength at the seat of the operation, and doing all that is possible at that time to obviate consequent hernia. The peritoneum and the integument with their associated tissues were united in the manner common to each. To Dr. McBurney belongs the credit of this which now appears to be a most valuable suggestion in the technique of abdominal incisions for this trouble. When this course is taken it is contemplated that the wound shall be closed at once, which was done in this case. However, I am of the opinion that similar steps are proper when the wound is to be treated by the open method, and for similar reasons also.

2. The appendix was not less than five inches in length and extended into the pelvic cavity. No evidence of present or past disease was seen, except that indicated by the congested appearance of the appendix itself, which was best marked near the middle of the organ. An incision into the lumen, made by Dr. Gouley, disclosed the presence of a small fecal concretion surrounded by a surface of well-advanced ulceration. The appendix was ligatured with catgut and removed, leaving a stump about one-half inch in length. This patient made a prompt recovery so far as the operation was concerned, the wound was healing by first intention without an unfavorable local manifestation. During the course of recovery, however, the patient experienced an attack of sub-acute pleurisy of the left side, and also of mild malarial fever. For these reasons it is impossible to properly estimate the symptoms dependent on the operation alone.

Case 4.—Lieutenant C. F. P., aged 32, member of U. S. Army. This patient's previous history is good in all essential respects. He came to my attention August 16, and was referred to St. Vincent's Hospital for operation two days afterward. On admission the following history was elicited:

Was perfectly well until May, 1888, when, without apparent

cause he was seized with a sudden severe pain in the right inguinal region, which was so intense that he could not move. At the end of a week a considerable tumor was found in the right inguinal region which, however, gradually disappeared during the succeeding two months. During this time had an increased and varying temperature. Aspiration of the tumor disclosed no pus. A short time after recovery from this attack he experienced another of less intensity, which confined him to bed for six weeks. No tumor was noticed during this time. One year after this, he had a slight attack of one week's duration, and the outset of which was coincident with an attack of indigestion. From this time until the present attack (August 3, 1894) any intestinal disturbance was quickly followed by pain in the right side. Since the first attack (1888) the patient has suffered from constipation with attendant colicky pains.

The present attack began August 3, 1894, with pain and tenderness in the side, loss of appetite and vomiting. For the next three days he attended to his military duties, although with much difficulty on account of pain and tenderness. The temperature was above normal during the last two days. He was sent from the State Camp at Peekskill to St. Vincent's Hospital on August 11, 1894. At this time he had pain, tenderness and tension of the right side, and a tender tumor was easily located just inside the anterior superior spine of the ilium. Rectal temperature 103 F.; pulse 82; respiration 26 at this time.

The patient was subjected to operation August 12, 8:45 A.M., at which time the rectal temperature was 102½, and in all other respects the condition was similar to that of the preceding day. Before the operation I expressed the belief that the appendix, in this instance, was curled upward and outward below the cecum, the apex lying somewhere at the outer side of the caput coli. I ventured this prediction because of the fact that the entire painful induration was placed at the outer side of the caput coli, and also because the tension and tenderness were noted not only there, but also above the iliac crest of the same side. During the course of the operation the following facts were demonstrated:

1. The contiguous parietal peritoneum was adherent to the outer and upper surfaces of the caput coli.

2. Extensive induration was found at the inner side of the anterior superior spine of the ilium, extending upward and downward considerable distance.

3. An abscess containing about two ounces of offensive pus was discovered at the posterior and outer surface of the caput coli.

4. The appendix could not be seen. Evidently it was confined in the mass of induration, and was no doubt perforated at or near the apex, and opened into the abscess cavity. The base of the appendix could, I am sure, have been located by following downward the fibrous band of the colon that leads to it. But the realization of this proposition would have required the direct opening of the peritoneal cavity through the peritoneum mentioned already as adherent to the head of the colon. In view of the fact that it was deemed unwise to thus expose a healthy peritoneum to the septic influences of the abscess close at hand, the appendix was not disturbed. The abscess was drained through the loin, cleansed and lightly packed with iodoform gauze. The patient made a rapid and uneventful recovery. The induration disappeared quickly. At the present time the wound is nearly healed and the patient complains only of the constipation, which dates from the time of the first attack.

It will be noticed at once that each of these cases is a secondary one, and therefore of special significance, since the afflicted have thus far escaped fatal termination. The first case sustained four attacks, the second two, the third and the fourth three each, thirteen in all. Seven of these attacks were severe ones confining the patients in bed from two weeks to two months. Six were slight, causing confinement of some, four days to two weeks. The recorded intervals between attacks vary from five years to two weeks. Well marked fever attended the majority of attacks. The duration and degree of fever, however, could not be ascertained with sufficient certainty to be of reliable importance, except that of the fourth case, which was under the observation of Dr. Nelson Henry while at the State camp. Tumor was noted in six of the attacks. Pus was evacuated in the fourth case by operation, and found in the second in a caseous state during the operation. The appendix extended downward and inward in two instances. In one (third) it was five inches long and extended into the pelvis. In the first the diseased apex was adherent to the peritoneum covering the brim of the pelvis. In the remaining cases it curved outward and upward below the cecum. In three-fourths of the cases intestinal disturbances were pronounced as an initiatory symptom or probable exciting cause. Muco-pus was present in the appendix in two instances; a fecal concretion in one; in the other the appendix was not found. It appears to me that considerable importance can be attached to the fact that the tumor of the first case was movable, comparatively near the pelvic brim and easily defined, because these peculiarities indicate: 1, a long mesentery of the appendix; 2, circumscribed tumor contiguous with intestinal folds; 3, an appendix within or near the pelvic brim. All of which bespeaks great danger to the patient from general peritonitis if rupture had taken place.

If these conclusions be true, then prompt operative action should follow the detection of a tumor having these peculiarities. If no tumor were found following a perforation of an appendix thus located, then, indeed, is the danger enhanced and all possible operative dispatch is demanded. The presence of the softened extremity of the appendix in this case, of itself, demanded operation, for obvious reasons.

Case 2.—In this the tumor was below the cecum, of small size, and pain occurred in the right thigh. These facts indicated that the appendix extended downward, and that the diseased action had involved the crural nerves. Although less dangerous than the former under unfavorable conditions, still easy general infection could quickly ensue from a perforation of appendix or of abscess in this situation. The dragging sensations of the right side which annoyed the patient before the operation, disappeared after recovery. This suggests that they were caused by the adherent omentum that defined this case, the relief coming from the division and separation of it that was necessary to properly expose the caput coli.

Case 3.—No tumor was discernible in this case, but deep and long-standing tenderness, and occasional pain called for operation here. The presence of the fecal concretion near the middle of an ulcerating appendix, without the slightest external adhesions, emphasize the probability of subsequent sudden perforation, followed by pelvic inflammation and possible death.

Case 4.—The presence of the greatest pain, tension, tumor and tenderness, at and above the spine of the ilium in this case indicated that the appendix turned outward and upward below the cecum, and extended above the spine at the outer side of the caput coli. The situation of the abscess at this point, together with the fetid pus it contained and its limitation on all sides at this situation, is confirmatory of the fact that the appendix was thus placed. It is fair to assume that the environments of this appendix were such that the dangers from perforation, or from rupture of abscess, were reduced to a minimum. The long interval of time (over four years) between the last and the previous attack, emphasized the fact in no undoubted manner that one without operative relief is constantly menaced by this disease.

The appendices were tied about one-half inch from

the cecum, the end touched with cautery, and in two instances the tissues were turned inward by sewing. But recently I saw two other cases which resembled in the physical aspects the fourth of the series. One was a secondary case.

It appears to me that the results of these cases justify the following conclusions:

1. That prompt operation in the interval of attacks is an advisable and safe procedure.

2. That the physical characteristics of the local changes define quite clearly the situation of the appendix, and thus indicate with much certainty the prognosis of the case.

CRANIOTOMY IN MICROCEPHALUS.

Lecture delivered to the Post-Graduate Medical School, Chicago, 1893.

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(*Concluded from page 646*).

What has been done so far? I have been able to collect seventy cases of this operation, all being on record; all histories were not obtainable; many cases have not been published. Most of the reports come from France and America, only one each from Germany, Italy and Spain. This shows clearly that the German surgeons are conservative or reluctant in this question. They do not operate in these instances. Their standpoint is clearly shown in the discussion, which was held when Case 47 of our table was presented before the Medical Society of Vienna. The histories of all cases of Lannelongue, though I tried to get their details I could not obtain, and must only refer to his *résumé* before the Congress of French Surgeons in which he gives a detailed account of what he has done. I have purposely excluded all cases that have been trephined on account of other diseases, which were combined with idiocy but not of the microcephalic kind, because they do not belong to this class of arrested development.

In the accompanying table I give a short account of two cases of Lannelongue; two cases of Horsley; three cases of Keen; seven cases of Roswell Park; two cases of Lane; two cases of Maunoury; two cases of Wyeth; two cases of Chenieux; one case by each Heurteaux, Auger, Kurz, Largeau, Prengrueber, Frank Fuller, Lanphear, Miller, McClintock, Bauer, Gerster, Trimbl, Ransohoff, Larabrie, Cerne, Estor, Binnie, Duran, Shears and Van Lennep, Gersuny, and last, two of mine.

There are two claims of priority, one by Dr. Fuller, of Grand Rapids, who has done, we can say, a regular craniectomy with good success in 1874, and has reported it; one by Dr. Lane, who operated in 1888, but did not report this operation until 1892; nevertheless Lannelongue remains the pioneer.

I, myself, have operated for microcephalus twice, and I will now give the history and *decursus* of the cases:

Case 1.—Josephine McC., age 15 months; fireman's child; came Oct. 4, 1892, to the children's department of the Policlinic, service of Dr. Detlefsen, who recorded the following history: Since the third month of her life, her mother noticed that the fontanelles were closed, and that the child had jerks in arms and legs, and spasms; the latter twice or three times a week, the former almost continuously. No hereditary disease. Present condition: Strongly built child, good muscles and structure of bones. The skull too small for the face, fontanelles closed; slight depression on the left parietal bone. The head is not held upright but falls passively backward or forward. Pupils large, equal reaction. The eyes always directed toward the right side. Contractures in arm and shoulder muscles; good deal of resistance to stretching. The left leg seems less movable than the right one. No contractures in the legs. If the muscles are pinched there is no expression of pain noticeable. The spinal column is held very stiff. The patient referred to Dr. Beck's clinic. Oct. 10, 1892, Dr. Harnisch examines the eyes; negative results. October 16, capillary bronchitis. November 7, operation in chloroform narcosis, by Dr. Schalek. Assistants, Drs. Wagner and Gaffney. The head appeared, when shaved, very small in its frontal and parietal region; less disproportionate in the occipital. The measures have been taken exactly, but inasmuch as they have no weight, I omit to record them.

The operation was done in the above described manner; the skull exposed by an incision forming a large flap with the base toward the squamous portion of the temporal bone of the left side. The hemorrhage was not heavy, for we used Esmarch's compression. One button was removed with the trephine and anteriorly and posteriorly a strip taken out with Luers forceps. The craniotomy being done on the left side only and in an extension of about twelve centimeters length and one centimeter width, it seemed to me sufficient at that time for at least the first trial, and I closed the wound without drainage. It healed by primary union, without the slightest local reaction.

Immediately after the operation the parents, who were instructed to watch the child carefully, and who were intelligent enough, noticed a great change. The child had hardly a jerk for the first few days, looked brighter, did not roll the eyes and the contractures disappeared. It looked altogether like a healthy child. This very promising condition continued for a few weeks, when some jerking occurred again but no spasms; the parents sometimes thought that the child showed some intelligence. It looked around when its little sister passed by, and tried to laugh at her, but these slight improvements changed so very little for a long time that it seemed to me that the operation had only a temporary result. I had shown the little patient to several well-known physicians and nervous specialists before and after the operation, and they agreed that the child had improved some. Still the change was not so well marked as to warrant the truthful opinion that it was due to the operation alone, and not to the increased attention of the parents after the operation. At present, about one year after the operation the condition of the child is as follows: The physical change is remarkable, the head larger and if measured shows great difference between now and before the operation. There is no disproportion between face and skull. The jerks are still the same, but the spasms have disappeared. The mental condition is not very much improved; the child seems to notice the light, seems to turn the head toward her mother calling her name, but it has not learned to speak any or to sit up. The contractures of the muscles appear once in a while. Altogether the result is a slight but progressing improvement.

Case 2.—Anton Hopp, aged 2 years; cigarmaker's boy. Was referred to me by Dr. S. Goldmann, of Chicago. The father gave the following history: He and his family had been always healthy; there was no hereditary disease either in his or in his wife's family. The child was the fifth of his second wife. The confinement normal and nothing abnormal was noticed in the child during the first few weeks. At the age of about 4 weeks the parents noticed that the child bored the head constantly backward into the pillow, and tried to stretch it even when there was no pillow, but the hard table. A physician who was consulted at that time found that the child's skull was abnormally small and that there was no trace of fontanelles. From this time on the child grew worse, the overstretching of the head kept

RECORD OF CASES OF CRANIOTOMY.

Name of Operator and source.	Date of Operation.	Age and Sex of P.	Disease and Symptoms.	Operation.	Immediate Result.	Remote Result and Remarks.
1. Fuller (Grand Rapids), Chicago Medical Record, Vol. viii, No. 3.	1874.	Child, ?	Chronic compression of brain. Not able to swallow, continuous spasms.	Three buttons removed by trephine and spaces chiselled out.	Spasms ceased immediately and deglutition possible.	Improving steadily. .
2. L. C. Lane, Journal Amer. Med. Asso., Jan. 9, 1892.	Aug. 28, 1888.	?	Microcephalus due to premature ossification of sutures. Imbecility.	?	Death 14 hours after operation, on account of prolonged anesthesia.	. . . . .
3. L. C. Lane, Journal Amer. Med. Asso., Jan. 9, 1892.	1892.	?	Microcephalus. Imbecility. .	H-formed craniectomy.	Better result; gives signs of better intellect.	. . . . .
4. Lannelongue, L'Union Médicale, 1890, No. 81.	May 19, 1890.	Girl, 4 years.	Microcephalus. Idiocy. Has no intelligence at all; can not walk, constant salivation. No contractures, no paralysis, no epileptic fits or equivalents.	Left linear craniectomy.	Child is more calm, not crying since day after operation, laughing, seems to be interested about her surroundings can pronounce some words. (Dupré, interne June 15, 1890.)	. . . . .
5. Lannelongue, L'Union Médicale, 1890, No. 81.	June 20, 1890.	?	Microcephalus, with more pronounced idiocy than Case 4.	Left linear craniectomy.	. . . . .	. . . . .
6. W. W. Keen, Medical News, Nov. 29, 1890.	Nov. 5, 1890.	Girl, 4 yrs. 7 mos	Microcephalus. Closed fontanelles and sutures. Never walked; could speak a few words when small, then lost speech. No contractures, no paralysis; had slight convulsions.	Nov. 5, 1890, left linear craniectomy. Feb. 17, 1891, craniectomy on opposite side.	Child more quiet, looking around at what is going on.	Since second operation no amelioration. Altogether the child is some better but not to that degree as Lannelongue's case.
7. Bauer, St. Louis Clinique, April, 1890.	1890.	?	Microcephalus. Of low intelligence but not imbecile. Since 6 years unable to walk. Motor paresis and contractures.	Linear craniectomy, two buttons removed space chiselled out.	Five days after operation less rigidity, patient can walk.	. . . . .
8. John A. Wyeth, N.Y. Medical Record, Feb. 21, 1891.	Jan. 2, 1891.	Boy, 11 years.	Microcephalus (head of baby 2 months). Cranial bones firmly ossified, fontanelles closed when 4 weeks old; cataleptic attacks, jerks in hands, talipes, equino-varus.	Linear double craniectomy with side incisions.	Collapse during operation, rallied well; 3 days after operation some improvement, less jerks, inversion of feet less noticed.	One month after operation change surprising and gratifying, remarkable increase of intelligence.
9. W. W. Keen, American Journal of Medical Science, June, 1891.	Jan. 16, 1891.	Boy, 16 months.	Microcephalus. Idiocy. Ant. fontanelles small at birth, closed at seventh month; convulsions.	Left linear craniectomy.	Death 1½ hours after operation; heart failure. No postmortem.	. . . . .
10. Heurteaux, Nantes, Congrès des Chirurgie, France, 1891.	Feb. 1, 1891.	Girl, 5½ mos.	Microcephalus. Idiocy, epileptic fits, convulsions, vomiting of even blood, contractures of hands.	Craniectomy.	Immediately after operation child takes breast, does not vomit, no convulsions, then growing worse. Death March 7, 1891.	No enlargement of head.
11. Th. Auger (Paris), Congrés des Chirurgie, France, 1891.	Feb. 11, 1891.	Girl, 8 years.	Normal size of head but depression on left side. At 15 months child began to walk, fontanelles long time open and depressible. Since age of 18 months retarded development of intelligence.	Linear craniectomy .	Eight days after operation asking for soup and salad.	March 16, 1891, mother writes: "All the people find a remarkable change of intelligence in my child."
12. Maunoury (Chartres). Congrès des Chirurgie, France, 1891.	?	Girl, 4 years.	Microcephalus, with premature ossification of sutures. Fontanelles closed at age of 3 years, never walked; contractures of hands, convulsions.	Linear craniectomy .	Immediately after operation better.	Later on the same improved condition.
13. Maunoury, ibid. .	March 2, 1891.	Boy, 2 years.	Microcephalus. Fontanelles closed at 7 months, idiot with convulsions and strabismus internus.	Left linear craniectomy.	Death 21 hours after operation.	. . . . .
14. I. C. McClintock, St. Louis Courier, 1891.	March 28, 1891.	Girl, 3 yrs. 8 mos	Microcephalus, due to premature ossification. No fontanelles; idiocy; can not walk nor stand, nor be well nursed. Nothing noticed up to age of 2 years; blind, right eye protruded (pressure); contractures.	Double craniectomy	. . . . .	Mother says: "Since operation child tries to sit up, is not so restless and tries to play with others."
15. Roswell Park, Medical News, Dec. 10, 1892.	June 21, 1891.	Boy, 5 yrs. 6 mos	Skull small for his age. Retarded mental development though not imbecile. Baby, jerking convulsions at age of 9 mos; grand mal.	Linear craniectomy, with side discission over fiss. Rolandi.	. . . . .	He now runs and plays with other children. (Dec. 10, 1892.
16. Roswell Park, Medical News, Dec. 10, 1892.	June 13, 1891.	Girl, 4 years.	Congenital microcephalus. Imbecility, muteness.	Linear craniectomy, with side incisions over fiss. Rolandi.	After result.	Practically *nil*. . . .
17. Largeau, Congrès des Chirurgie, France, 1892.	July 2, 1891.	3 years.	Microcephalus due to premature ossification. No fontanelles, never walked, never talked, can not grasp anything (mother has a congenital luxation) and contractures.	Craniectomy á lambeaux.	July 4. Sitting up and eating. July 6. No contractures, brighter.	Seven months later: Head larger, can call brother, grasps objects, can not walk yet but does not fall.
18. Victor Horsley, British Medical Journal, Sept. 12, 1891	Sept. 12, 1891.	Boy, 3 years.	Microcephalus idiot; can not feed himself, eating his excretions, moving constantly, good physical health.	Left linear craniectomy.	Three days after operation child better; nurse (who has been with patient 9 mos. before) says less restive, much quieter. Father and nurse struck with rapid improvement.	Dr. Wylie: "Improvement most marked and continued."
19. Parkhill, Medical News, Feb. 27, 1892.	Oct. 9, 1891.	Boy, 4 years.	Microcephalus. No speech, no sense, falls down on his face two or three times a day.	Incision elliptical 3¼x6½ inches.	Condition very much better after operation.	. . . . .
20. Roswell Park, Medical News, Dec. 10, 1892.	Oct. 20, 1891.	Boy, 18 years.	Upper portion of cranium relatively small though not conspicuously; intelligence of a child of 3 years.	Irregular triangular piece chiseled out.	Arachnoid and pia mater edematous, bone thick, 1 cm., death several hours after operation from exhaustion. No postmortem.	. . . . .

Name of Operator and source.	Date of Operation.	Age and Sex of P.	Disease and Symptoms.	Operation.	Immediate Result.	Remote Result and Remarks.
21. Binnie, Kansas Medical Index.	Nov. 6, 1891.	?	Microcephalus. Idiot, at 4 mos. all fontanelles and sutures closed; eyes and head rolled, seems to recognize friends, stretching arms towards them	Left linear craniectomy.	Condition very poor right after operation, death 15 hours after. (Chisel and mallet used necessitated inversion during operation.)	. . . . .
22. Roswell Park, Medical News, Dec. 10, 1892.	Nov. 7, 1891.	Boy, 15 years.	Helpless idiot with epileptic fits.	Linear craniectomy.	Death from shock. No postmortem.	. . . . .
23. Roswell Park, Medical News, Dec. 10, 1892.	Nov. 14, 1891.	Boy, 9 years.	Microcephalus, with Aztec-like skull. Idiot, with epileptic fits.	V-shaped craniectomy.	Immediately after operation, less fits.	One year later speaking plainly—astonishing results.
24. Roswell Park, Medical News, Dec. 10, 1892.	Nov. 14, 1891.	Boy, 12 years.	Asymmetry of skull, depression on right side. Imbecile, epileptic.	Craniectomy.	Three months after operation, less fits.	One year later, no improvement since last time.
25. Roswell Park, Medical News, Dec. 10, 1892.	1892.	? 14 months.	Microcephalus. Closed fontanelles, seems to recognize between dark and light.	Craniectomy, ...	Death one day after operation.	. . . . .
26. W. W. Keen, American Journal of Medical Science, June, 1891.	Dec. 3, 1890.	Girl, 18 months.	Microcephalus. Idiocy.	1. op. Craniectomy on one side, March, 1891. 2. op. Craniectomy on opposite side.	Hospital attendants are decidedly of the opinion that she is quieter and claws at her head much less than before. Keen himself can not see much difference.	Progress like his first case.
27. Gerster and Sachs, American Journal of Medical Science, June, 1891.	?	Girl, 4½ years.	Microcephalus. Idiocy; several attacks of convulsions, loss of speech, closed fontanelles.	Linear craniectomy.	Death.	. . . . .
28. Shalders Miller, British Medical Journal.	March 21, 1892.	Boy, 8 months.	Microcephalus. Complete ossification of fontanelles (not at birth), blind (optic neuritis), contractures, cryphthorismus, bad deglutition.	Linear craniectomy (periost. removed).	Spastic condition diminished, testicle descended, all symptoms improved very much.	May 18. Still improving.
29. J. Frank, Chicago Medical Rec., Vol. viii, No. 9.	1892.	Boy, 3½ years.	Microcephalus. Ossification of sutures, no fontanelles, spasms from birth, tonic and clonic contractures, totally blind, impaired hearing.	Double linear craniectomy (chisel and mallet.	Ten days after operation, suppuration, enlargement of head ⅛ of an inch antero-post.	No improvement whatever.
30. Ransohoff, Medical News, June 13, 1891.	?	Girl, 3 yrs. 7 mos	Microcephalus. In progress of ossification, left parietal bone overlapped the right, left arm less used.	Linear r. craniectomy	Gratifying degree of success, enlargement of diameters, mental action clearly present.	. . . . .
31. Larabrie, Semaine Med. April 1, 1892.	?	5½ mos.	Microcephalus.	Craniectomy. . . .	Improvement 48 hours. Death five weeks after operation.	. . . . .
32. Cerné, LaNormandie Médicale, Oct. 15, 1892.	?	3 yrs. 3 mos	Microcephalus.	Craniectomy. . . .	. . . . .	At the end of one year the result seemed perfectly satifactory.
33. Estor, Montpellier Medical Journal, June 4, 1892.	?	?	Microcephalus, with usual symptoms.	Craniectomy. . . .	No appreciable improvement in the child's mental condition.	Only benefit child derived, it could stoop down and pick up things without falling.
34. E. Kurz, Nr. Med. Presse, Oct. 23, 1892.	March 31, 1892.	13 months.	Microcephalus. Idiocy, with epileptic seizures,	Craniectomy. . . .	Eight weeks after operation perfect restoration of bone, seizures lighter, child continues to become brighter.	?
35. Chènieux, Congrès des Chirurgie, France, 1892.	?	Small Girl.	Microcephalus. Ossification of sutures.	Double craniectomy, á deux temps.	?	. . . . .
36. Chènieux, Congrès des Chirurgie, France, 1892.	?	Boy.	Microcephalus.	1. op. done by Lannelongue; linear craniectomy. 2. op. done by Chénieux in V-shaped form.	Some amelioration from first operation, but family wished still better results.	. . . . .
37. Duran, Revue Intern. de Biblioge., March, 1892.	?	5 years.	Microcephalus. Idiocy, strabismus, constant moving of head.	Linear craniectomy.	Following day all symptoms improved, strabismus disappeared, child brighter.	Eighteenth day after operation death from smallpox.
38. Lanphear, Medical Brief, St. Louis, Sept. 1892.	July, 1892.	Boy, 4 years.	Microcephalus. Idiot, hopping walk, no speech, never showed the slightest evidence of sense.	Double craniectomy, á deux temps within six weeks.	Now, two months after operation, child begins to walk, to say mama, papa, cat, dog, etc. Can feed himself.	. . . . .
39. Victor Horsley, British Medical Journal, Sept. 12, 1891.	?	Boy, 7 years.	Microcephalus, with usual phenomena. Epileptic fits since age of 7 months,	Craniectomy. . . .	During operation the pulse became weak, the breathing fast. Death 3 days after operation.	. . . . .
40. Lanphear, Kansas Medical Index.	November, 1891.	Girl, 11 years.	Microcephalus. Idiocy. When 7 years old began to go to school, to learn to read, etc. Then fits of convulsions, head became smaller, intelligence decreased. Otitis med. supp.	Craniectomy, with opening of dura.	Death 42 hours after operation. Autopsy: Cyst above center of speech, lepto-meningitis.	. . . . .
41. Wyeth, Int. Surgic. Journal, Nov. 1891.	?	Boy, 6 years.	Microcephalus. Closed fontanelles. Idiot, with epileptic convulsions.	Double craniectomy.	The child showed very much improvement the following week.	. . . . .
42. Prengrueber, Gazette des Hôpitaux, Jan. 1892.	?	Boy, 9 years,	Microcephalus, with asymmetry of skull. No fontanelles and prematurely ossified sutures. Has the intellect of a child of 4 years, does not walk nor talk, constant salivation, loves music, used to walk when 3 years old.	Left linear craniectomy.	First day: Brighter, clear language, no salivation, wipes his mouth, blows his nose, plays with small trumpet and cannon, asks for vessel.	. . . . .
43. Trimble, Medical News, 1891.	Nov. 8, 1890.	Boy, 3 years.	Microcephalus, with ugly temper. Can not raise his body from horizontal position, can not talk, constant salivation.	Right linear craniectomy.	Temper better	Sits in baby's chair, calls papa, mama, and peek-a-boo. Evidently improving.
44. Van Lennep, Hahnemannian Monthly, 1891.	?	Girl, 14 years.	Microcephalus. Looks like a two-year old girl, takes no interest in anything, can not stand by herself, no paralysis.	Linear craniectomy.	Some improvement . . .	Has been very quiet since.
45. Hartley Starr, N. Y. Med. Rec., Jan. 1892.	?	Girl, 7 years.	Epilepsy. Weak mind, hemiplegia. Was born healthy and remained so up to age of 5 mo.	Linear craniectomy.	No marked improvement, is often unconscious.	. . . . .

Name of Operator and source.	Date of Operation.	Age and Sex of P.	Disease and Symptoms.	Operation.	Immediate Result.	Remote Result and Remarks.
46. Shears, Hahnemannian Monthly, 1893.	?	Girl, 6 years.	Microcephalus. Irregular head. Idiocy, can not walk, no control over urine and feces.	Left linear craniectomy.	At once signs of improvement.	Three months later, control of urine and feces, uses three words.
47. Gersuny, Nr. Med. Wochenschrift.	September, 1892.	8 months.	Microcephalus. Three months normal development, then epileptic fits; synostosis of sutures and fontanelles.	Circular craniectomy. A strip removed horizontally through vertical incisions in the scalp in two sittings.	Primary union, fits less frequent and less in intensity.	Five months later, very few fits. (Dr. Rie.)

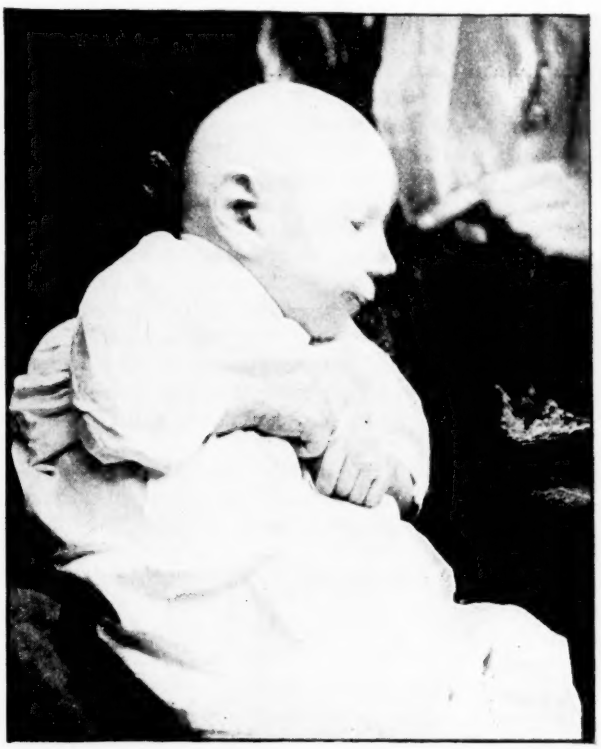
on, the hands, arms, legs and muscles of the body became stiffer until the child was so stiff that it could be kept straight like a stick, if supported by the head and having its feet on the ground, the body being in oblique position toward the ground. At the same time the saliva dribbled constantly from its mouth, the eyes rolled incoördinately about and never rested on one object. This condition kept on all the time and is the same now, Aug. 28, 1893; the physical condition is otherwise very good. The child shows not the slightest trace of intelligence nor can it sit nor creep, nor does it speak. From time to time it has attacks, sometimes every few hours, of short quick breathing, sometimes jerks all over the body. These jerks and clonic convulsions do not last very long and at the end of each such attack the child cries a little, a sign that the contractions are painful. The head is small, altogether as the picture shows, but the smallness is due to the reduced size of the skull while the face is comparatively larger. There is no

Case 1.

difference between this case and the first one, in regard to the size of a particular region of the skull, but the whole skull is reduced. The fontanelles can not be found, but there is a slight depression on the spot where the small fontanelle normally is situated. The sutures can not be felt through the skin, but they seem to be at least very firmly united, if not obliterated. Measures of the skull were taken, but they are valueless.

We have to deal here, as in the first case, with a microcephalic idiot of low degree with arrested development at an early period of life. Though the case did not seem to me very favorable, it was nevertheless a case worthy of trial of a craniectomy.

August 29, operation was done under chloroform (Dr. Goldnamer) with assistance of Dr. Wagner, before the class of the Post-Graduate School. A median incision from above the glabella down to the protuberantia occipitalis was made, skin and periosteum flapped back to both sides, on each side a button removed with a trephine, and forward and backward curved excisions of bone made with my modified Luer's forceps, so that the excisions met near the line of the frontal suture in front, without going over one into the other; that is, a double linear craniectomy. The child stood the operation very well and soon afterward the contractures disappeared. The dura did not bulge nor bleed any, nor did the diploë bleed to any extent, the hemorrhage from the skin having been well prevented by a rubber compressive tube. During the first few hours the child was normal, but toward evening of the same day the temperature rose to 100, the pulse being uncountable. On the next morning I looked at the wound because the fever had reached 102, and I found that one stitch-hole was covered with a yellow crust, and on removing the silk-worm gut a drop of yellowish thin pus-like fluid escaped. The wound was washed out with sublimate



Case 2.

solution, and the temperature sank some, but afterward rose every day; the child became weaker and weaker, it had chills and strong contractures and died on the seventh day after the operation.

The autopsy made on the next morning showed the following state: The wound was united by primary union except a small place where the stitch had been removed, but the dura was covered with thick yellow pus-like membrane; the diploë next to the excised bone was of yellowish appearance and the putrefaction had evidently gone into the bone. The inner side of the pachymeninx and the brain did not show any trace of a suppurative process. The brain itself is characteristic of a microcephalus; it shows micro- and polygyria, but it shows at the same time hydrocephalus chronicus internus. The ventricles were so dilated and filled with an opalescent fluid that the brain substance, gray and white, appeared only as a comparatively thin shell and sank in when the fluid had escaped. It weighed when measured fresh, 240 grammes; that is for a 2-year-old child

somewhat small. The harmony of the brain is a little disproportionate, inasmuch as the cerebellum seems to be comparatively larger than the cerebrum. The cerebrum will be examined microscopically and the report will be the subject of a special paper.

In regard to the septicemia that had killed the child, I found, that previously to the craniectomy, on the same morning, in the same operating room, a maxillary periostitis had been operated upon, at which the same nurses attended, and dressing partly, from the same jars was used. This shows again that clean operations though perfectly, carefully and aseptically prepared can suffer if done in the same room where infected wounds are operated on, for we can not help infecting against our best will.

I have operated twice more for idiocy, without microcephalus, but I will not report these cases in connection with this abnormality.

We will now consider the peculiarities of the single cases, and from the results obtained, so far, draw our conclusions. As to the age of the patients of the different authors, we find mostly representatives of the early infancy and youth, and only a few children of advanced age; that is over 10 years. There are cases of 5½ months (Larabrie and Heurteaux), but both died after the operation. It seems that this very young age does not bear well such a shock. Lannelongue's cases ranged from 8 months to 12 years, but Roswell Park had an operation of an individual of 18 years, and another one of 15 years, and these both died, so that we might say, if we are allowed at all to judge from these two cases, that older children do not bear the operation as well either. The conclusion may be fallacious, as I say, but time will prove it. By all means an age from 1 to 10 years will be the most favorable for an operation on account of the following points:

1. This age bears the operation well.
2. If we presume that the pathologic changes are progressing, they have not reached an incorrectible state.

As to the sex of the patients there were about as many males as females. The symptoms of the greater number of patients were similar, so that we find pretty nearly the same description in their histories; the physiologic expression is typical, though the anatomy does not show a type. Idiocy, lack of speech and lack of coördinate movements; the patients could not walk and often had contractures of their limbs. Strabismus is mentioned frequently. Restlessness and malicious and wicked temper are also noted. One important factor shows itself as favorable for the result, and that is the occurrence or rather the beginning of the idiocy after somewhat normal conditions of life; the outset of the symptoms in a previously normal child, as in the cases of Auger (Table No. 11), Lanphear, (Table No. 40), etc. We shall refer to these cases later on.

The kind of operation; that is, the different modifications of the original method, vary much in the single cases. In the earlier operated cases, linear craniectomy on one side was mostly practiced; later, double craniectomy with flap formation was done, and this seems the only rational and effective way, though results have been obtained by the one-sided operation. The sizes of the pieces of bone taken out vary as well, in fact they vary so much that the measures have been left out of the *schema*. Periosteum was taken out corresponding to the slit in the bone, in order to prevent the growth of the bone and closure of the openings made by the operation, but many authors as Kurz, for instance, remark expressly that the bone did not re-appear within months. So it was in my first case, where I can to-day feel the openings. The *modus operandi* consisted in most of the cases of using the trephine first, then a rougeur forceps, the modification of Luer's bone cutting forceps. This method is the simplest and safest. In some cases, as those of Lanphear, Binnie, Roswell Park and others the mallet and chisel was used; but both authors described the use of this method as very unfavorable, because it produced shock in the respective instances. The concussions of chisel and mallet are greater than those from trephine and the saw.

As to the effect of the operation we have to state the immediate effects of the same, the dangers and possible complications, or operative result, and last the remote or curative result. The following table shows the death rate of the operation which is still rather high, if we consider Lannelongue's results with those of the other authors:

Name of Operator.	No. of Operations.	Deaths.
Lannelongue	25	1
Fuller	1	. .
Lane	2	1
Keen	3	1
Bauer	1	. .
Wyeth	2	. .
Heurteaux	1	. .
Anger	1	. .
Parkhill	1	. .
Maunoury	2	1
McClintock	1	. .
Roswell Park	7	3
Largeau	1	. .
Horsley	2	1
Binnie	1	1
Gerster	1	1
Miller	1	. .
Frank	1	. .
Ransohoff	1	. .
Larabrie	1	. .
Cerné	1	. .
Estor	1	. .
Kurz	1	. .
Chénieux	2	. .
Duran	1	. .
Lanphear	2	1
Prengrueber	1	. .
Trimbl	1	. .
Van Lennep	1	. .
Hartley and Starr	1	. .
Shears	1	. .
Beck	2	1
Gersuny	1	. .
	72	12

This makes a mortality of nearly 17 per cent., while Lannelongue's mortality is only 4 per cent. The mortality without Lannelongue's cases is nearly 23 per cent. These figures have a relative value only; that is to say, the mortality will be much smaller the larger the number of cases will be from each single operator, as it is always the case with new operations.

The dangers of the operation are:

1. Shock.
2. Hemorrhage.
3. Infection.

As to the shock, we can say that chisel and mallet have been justly accused and ought to be abandoned

in this kind of brain surgery. The operation ought furthermore to last as short a time as possible. My first operation took twenty-five minutes altogether, but it was simple and uncomplicated, the anesthesia perfect; the second forty minutes. It was a double craniectomy; but we find operations that lasted one hour and a half. Such a prolonged operation can not be without influence on the heart of the patient. Hot applications to the head and reversion of the patient, head downward, have been recommended by Horsley and others as effectual to remedy this accident, and bring back the missing pulse and the respiration.

Hemorrhage has been once the cause of death (Gerster). It can come from the diploë, but generally this spongy tissue does not bleed very much, and the bleeding can easily be checked by pressure. But another source of hemorrhage is more serious, that is the lesion of a sinus. Such an accident can happen and would perhaps be fatal, though in operations on the brain of an adult it has been followed by recovery. Hemorrhage from the scalp is the most common, and can become serious; my experience is that an Esmarch rubber band, fastened tightly around the head can render the operation pretty nearly bloodless. Infection is mentioned as a cause of death in one case; in Lannelongue's only case of death. He thinks that the acutest sepsis killed the child. Asepsis will prevent such an event.

Complications that can happen besides these are manifold: A bulging of the dura may occur after the incision, and may even be so great as to cause fear of a hernia cerebri, but this is rare. The dura may be injured but not purposely; it must be sewed up again. This accident involves a great danger, that is the loss of cerebro-spinal fluid.

To classify the deaths according to their cause:

Shock	6 cases.
Heart failure	1 "
Loss of blood	1 "
Infection	2 "
No cause given	2 "
	12 "

The immediate result of the operation has to be distinguished from the remote or curative. The success of those cases that did not die within a few days after the operation was almost a perfect recovery, primary union and an apparent euphoria. The cases which have been described too early, refer to this result only, and these descriptions are valueless, therefore, for our judgment of success. In some descriptions we find the remark that the patients got along very well at first; their conditions improved, they showed advancement, but soon afterwards the old conditions recurred. Such a result must lead to the belief that the development of the brain began, but soon subsided, because the sutures or rather the openings were drawn together again by the tightening cicatrix; such a pathologic change is not proven. In other cases, observed well otherwise, we find that the authors relied too much on expressions and judgments of mothers and nurses; I must warn you, because I know as well as any author who has put on record such remarks, how much can be suggested to the prejudiced physician, how much more to the prejudiced mother or relative. "*Quae volumus, libenter credimus.*"

One author, whose patient died, did not hesitate to record the remark, that the improvement, the brighter and clearer face of the patient some moments before death were reward and justification enough for such an operation. This is over-enthusiasm.

The improvement that follows the operation and steadily increases, until the child is in normal condition is what we expect and must try to accomplish. Such an improvement has been accomplished in some well authenticated cases by authors whose veracity is beyond reproach.

There is one factor that helps to reach such an improvement; that is the pedagogic. This never has been doubted and is brought to the foreground by the adversaries of the operation. We must concede that a child who has been idiotic for a long time and has been growing worse constantly is neglected as to this point, and therefore can not get better; while to a child after such an operation as craniectomy, with new hopes, the best attention the greatest care is given, and all inventive speculations to improve it are carried out. It gains by this treatment.

Who ever saw the accomplished works which were exhibited at the World's Fair in Chicago, the products of such an education of the feeble-minded and idiots; whoever saw the artistic work that was shown there, and which was done as it is stated, often without supervision of the teachers of the respective schools of the United States, must agree with Bourneville, who advises the surgeons to go and to see the schools of our country that are model institutions and have the proudest results. But that does not exclude the fact that some microcephalic idiots derive great benefit from the operation and later on are able to attend such schools with success.

To classify the results in figures, we would divide the cases in the following categories:

1. Perfect and lasting improvement.
2. Perfect improvement but stationary for some time after the operation.
3. Slight improvement, but good prospects by pedagogic methods.
4. No improvement.
5. Worse condition than before.
6. No results stated, or too early reported.

First category, 16 cases.
Second category, 4 cases.
Third category, 1 case.
Fourth category, 1 case.
Fifth category, 11 cases.
Sixth category, 27 cases.

In the first category we would find all the successes, as far as they can be judged, for it would take years to form an opinion. In the second category we find cases that showed marked improvement, but later on remained stationary, or recurred to the old condition. We would have to examine whether the operation was not carried out to the fullest extent or, perhaps, the disease had progressed too far, hence the failure. The other categories are easily understood.

CONCLUSIONS.

1. Craniectomy is a justifiable operation and apt to be successful in the treatment of microcephaly with idiocy.
2. The success depends on the kind of microcephaly and the degree of idiocy.
3. Acquired and late forms give a better prognosis than congenital forms.
4. The danger of the operation is not very great.

5. The operation ought to be quite extensive, that is, the incision in the skull large enough, to permit dilatation, and the circular method of Gersuny ought to be given a trial.

6. The patients must be given a thorough pedagogic treatment afterward.

7. The single cases ought to be followed up for years and reported from time to time.

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PRACTICAL DIFFICULTIES OF MEDICAL HEALTH OFFICERS AND PHYSICIANS IN DEALING WITH SUSPECTED CASES OF DIPHTHERIA.

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It is within the recollection of almost all of us that it is not more than ten years since scientific investigation gave us any actual idea of the immediate cause of the disease known as diphtheria. At that time even its contagiousness was disputed by many; and while medical practitioners having experience with the disease had noted its special incidence in certain localities and still more in certain dwellings, yet the cause was by most supposed to be due to local unsanitary conditions wherein the decomposition of organic matter, whether animal or vegetable, in cellars, sewers, etc., was supposed to exert a causative influence. While to-day such conditions are readily acknowledged to exert influences favorable to the occurrence of the disease, yet actual observers of this as of other zymotic diseases give such influences the secondary place, and speak of them as exciting causes rather than as the immediate cause. The part which the presence of decomposing organic matters plays in the dissemination of the disease must not, however, in my opinion be for a moment lost sight of, as otherwise the working sanitarian, *i. e.*, the executive health officer, will often be robbed of an argument of the greatest value in his efforts to suppress outbreaks of the disease, or to supply a fairly satisfactory explanation of the occurrence of so-called sporadic cases.

Before discussing further, however, the importance of decomposing organic matter in favoring outbreaks of diphtheria, it will be well for us to make some observations on what we call the immediate cause of the disease. Within the two or three years after the announcement by Löffler of his discovery of the bacillus which he asserted to be the true cause of diphtheria, pathologists in many laboratories published the results of their researches made along the lines laid down by him, and many asserted with equal positiveness that Löffler's bacillus while certainly present in many cases of diphtheria was yet by no means necessary to the appearance of the disease, *i. e.*, of a diphtherial exudate on the mucous membrane of the pharynx. I need only recall on this point the work of Professor Prudden, of the College of Physicians and Surgeons, of New York, on the streptococcus of diphtheria. Without dwelling further on the results of other investigators it need only be said that with the multiplied labors of many bacteriologists we now know that the mucous membranes of the mouth and air passages having air to the amount of over eleven cubic meters in twenty-four hours passing over them, must necessarily become the receptacle of all floating particles existing in this volume of the atmosphere.

When it is further remembered that microbes according to various experimenters will not rise from moist surfaces, and that air expelled from the throat through a sterilized tube is incapable of inoculating a culture medium of beef broth, it is apparent that the mouth with its mucous membranes maintained at a temperature of 38.4 degrees C., must act very similarly to a culture medium in which microbes from dust, whether in air or on food, begin the struggle for existence; those forms finally triumphing which find the environment most completely in harmony with individual peculiarities and local conditions.

To illustrate in some degree this point the following figures may be given: Air respired by an average man in twenty-four hours, 11.05 cubic meters; average number of microbes in cubic meter of air of Paris, France, in 1884, 3,480; in center of Paris, 1893, 6,040; in new park of Montsouris in 1884, 480; in park clothed with turf and trees, 1893, 275; in ward in Hotel Dieu, 3,250; in air of Paris sewers, 4,070.

In this connection it may be mentioned that Miquel has found that while in winter the external air of Paris contained molds to bacteria in proportions of about 6 to 1, yet the ratio in the air of the Hotel Dieu was, molds 1 to 20 bacteria.

Bacteria in mouth and nasal passages: Von Besser found on nasal mucous membrane in eighty-one cases: Diplococcus pneumoniæ fourteen times; staphylococcus pyocyaneus fourteen times; streptococcus pyogenes seven times; bacillus Friedlanderi two times.

Black, in ten healthy persons, found: Staphylococcus pyocyaneus seven times; staphylococcus pyoalbus four times; streptococcus pyogenes three times.

This table, necessarily very incomplete, is enough to illustrate the important point that both in theory and by observation the transference, from the dust of streets and still more of habitations, of numberless living forms is constantly going on, and that therefore it need cause no surprise if every form capable of overcoming the protective influences present on

the respiratory mucous membrane should from time to time and in different climates, localities and under different conditions make their presence in the system recognized, owing to the exudative processes resulting in the formation of a so-called diphtheritic membrane.

Without referring to these influences promoting diphtherial exudations, I propose for the purposes of my paper to refer to the results of the most recent experimental work on the subject of the diagnosis of true diphtheria, in order that the difficulties experienced in dealing with the disease may be made apparent. I refer especially to the bacteriologic and clinical observations made by MM. Chaillou and Martin, Internes of Hôpital des Enfants, Paris, carried on under the direction of Dr. J. Simon, of the Hospital, and Dr. Roux, of L'Institut Pasteur.

Reverting to the varieties of microbes found in diphtherial membrane it may be said that the work of Yersin and Roux published in 1891 indicated with great clearness the importance of the bacteriologic examination of diphtheritic membrane in the case of all patients brought to diphtheria hospitals, before their admittance to the wards, from the fear that such patients if not affected with the Löffler bacillus would in the wards be exposed to the contagion.

Since that time, attempts more or less systematic have been made to give practical direction to such examinations by urging the measure in private practice. This, however, from causes manifest to all has been possible only under exceptional circumstances, and everywhere practitioners proceed in the old way of diagnosis by merely clinical signs and symptoms; although, as MM. Chaillou and Martin state in the outset of their paper, published in the July number of the *Annales de L'Institut Pasteur:* "Les nombreux savants qui ont écrit dans ces derniers temps sur le diagnostic de la diphtherie s' accordent à reconnâitre que dans les angines blanches, seul l'examen bacteriologique peut fournir un diagnostic certain."

In the complete supervision and study of 200 cases as internes of the Hospital (Hôpital des Enfants) they have been able to say that the bacterial diagnosis being made it was then possible with a systematic observation of the clinical signs as of the adenopathies, albuminuria, temperature, pulse, and respiration to make very accurate prognoses.

From what has already been stated with regard to the dissemination of microbes we shall be prepared for the following results of their work on those points we are at present specially concerned with. Their examinations included 198 cases in all: Anginas or throat invasions, ninety-nine; croups or laryngeal, ninety-nine. Of the anginas they established three divisions:

Anginas non-diphtheritic twenty-nine; deaths none.

Anginas purely diphtheritic forty-four; deaths ten.

Anginas diphtheritic with associated forms twenty-six; deaths eighteen.

Thus more than one-fourth of the sore throats were not true diphtheria. It is explained that this work being done in the hospitals in winter the number of throats with non-diphtheritic exudation is less than in summer as shown by previous experiments. These non-diphtheritic cases consist principally of coccus forms (single or diplococcus but not in chains), some disappearing in two or three days, but in half the cases some membrane, mostly of white points, continued for six days and over. In some of the cases the membrane appeared in the nose or the larynx—in one case necessitating tracheotomy. Essentially these membranes seem more creamy, less adherent and less elastic; but it is practically impossible by the eye to distinguish these from the milder cases of diphtheria. Albuminuria was found in five cases. Five maintained it during the presence of the membrane and the pulse oscillated with it, nevertheless the general state was good, appetite good and face keeping its color, while even in the most serious cases the observers did not hesitate to give a good prognosis. One case had the pneumococcus of Fraenkel and four cases had the staphylococcus form. In these four cases it was the sole cause of the disease and the cases were seldom mild.

Other instances of an undetermined bacillus occurred and eleven cases with a streptococcus; three of these supervening in cases with scarlatinal eruption. These cases were not true diphtheria as shown in several ways, although the membrane in its gross appearance was most characteristic—the scarlatinal redness of the throat chiefly making the distinction. Such cases were transferred to the scarlatina wards; and the course of this disease were there exhibited. In eight of the cases there were streptococci without scarlatina, these having whitish gray membrane adherent to tonsils and surrounding parts; but patchy and in two instances pultaceous and having the staphylococcus pyogenes associated with it. Such cases were sufficiently serious. Summing then these up there were: Eleven cases with a coccus; one case with a pneumococcus; four cases with a staphylococcus; two cases with a coloform bacillus; eleven cases with a streptococcus, or twenty-nine in all. They found cases presenting for a number of days serious anginas, but which rapidly became ameliorated and were all healed in from eight to ten days.

There were forty-four pure diphtherias of which ten died. Of these, thirty were so mild that they had not been recognized as diphtheria without bacteriologic examination; while the other four were diphtheria from clinical appearances. The first had but little membrane; eight cases had mere white points like follicular amygdalitis. These increased but little during succeeding days or even rapidly disappeared. While these observers never found the bacillus of diphtheria without some membrane, yet in several instances it was found only after very close examination. In fifteen cases with more membrane the glands were always engorged. Unequal bilateral extension and glandular enlargement of the two sides were characteristic of true diphtheria. In thirteen cases there was no albuminuria; while in fourteen severe cases it was present from the outset, and of these ten died and four recovered. In these cases the membrane was grayish white, very adherent and sanguinolent and often had extended over all the back of the throat. Albumen was found in every case at an early stage and persisted till death; while the interrupted pulse was a most significant prognostic, much more so than the temperature.

In the diphtheritic anginas with other associated bacteria the Löffler bacillus overgrows in cultures the other forms, and these are got only by numerous repeated isolations on different cultures. Of these there were twenty-six cases, the chief being the streptococcus growing after twenty-four hours on the

gelatin as distinct fine points. Of fourteen of these cases, thirteen terminated fatally; although inoculated in guinea-pigs with the two forms cultivated separately they are not always very virulent. In three cases, for several days no albumen appeared but did on the sixth or seventh day. In these cases the patients presented the pale faces, the venous-hued lips, the yellow eyes, the fetid breath, the torpor and generally stricken appearance presaging approaching death.

The cases with associated staphylococcus were likewise very fatal, five in all, and all dying.

A similar history of the variation in the bacteria present is given in the cases of croup discussed in the paper by MM. Chaillou and Martin. The authors draw several most important conclusions:

1. That in order to give a prognosis, the knowledge of the microbes associated with the Löffler bacillus is necessary.

2. That some of these where present, as the coccus, augur a favorable issue to the case, and that others, notably the streptococcus, indicate a grave prognostic.

3. Some seemed to aid the growth of the Klebs-Löffler bacillus; others to hinder its development.

This summary of work illustrates, I imagine, almost every phase of diphtheria which those of us who have had much to do with the disease have experienced.

The detailed peculiarities of different cases, referred to in the extended monograph, have one after another seemed to call up memories of cases within my own experience, which, owing to imperfect knowledge at the time, seemed in their varying characters to be inexplicable on the basis of a common cause. The bacteriologic results therein set forth, so far as separating non-diphtheritic cases from true diphtheria, have been already taken practical advantage of by a number of public health departments, and on this continent I believe New York City was the first to adopt the method by which test tubes with a culture medium are left at certain stations throughout the city, as drug-stores, where physicians can obtain them with instructions as to the manner of inoculating them with membrane, thereafter to forward them to the laboratory of the City Health Department.

With a view to aiding medical health officers throughout the Province to determine with the local physicians the real nature of doubtful cases of the disease, the Provincial Board of Health of Ontario has notified local boards to forward, as per printed instructions per express, specimens to the Provincial Laboratory for examination. This work has been in operation for only a few months, and too few specimens have as yet been examined to enable us to give an estimate of the average percentage of cases in which the Löffler bacillus is likely to be present or absent, so as to serve as a standard for the locality.

There are, as pointed out by MM. Chaillou and Martin, likely to be seasonal differences, and probably different localities, climates and cities will show variations in the prevalence of one or more of the specific pathogenic forms referred to by different bacteriologists.

The advantages which the precise knowledge of the cause of membranous exudates have given, both in the prevention and treatment of diphtheria, while considerable, have nevertheless brought into prominence certain points, which are likely if not intelligently weighed in their practical bearings, to bring perplexities and difficulties to both attending physician and health officer, quite as great as those existing formerly, where acrimonious disputes have arisen as to whether the sore throat was diphtheria or simply amygdalis with exudation.

The advantages which the accurate differentiation of the microbe causative of the exudate in any case brings us are principally:

1. That within twenty-four hours in the ward annex of an hospital, a scarlatinal sore throat with streptococcus can be differentiated and be prevented from exposure to the true disease in the diphtheria ward.

2. That, similarly, cases where simple cocci or diplococci are present may be kept from exposure to the true diphtheria in the general hospital wards.

3. That physicians will be able to arrive at more intelligent conclusions as regards the duration of a case and its prognosis than hitherto has been possible.

4. That an intelligent differentiation of cases suitable for treatment with the antitoxin against the Löffler bacillus has thereby become possible.

5. That the probable length of infectiousness of any case can in some degree be determined by the form of microbe present in the membrane.

Such progress is notable, and the needs supplied thereby are fully indicated when we study the reports of contagious disease hospitals. For instance, in the 3,064 scarlet fever admissions into the North-eastern Metropolitan Asylums Board Hospital, London, England, for 1893, there were:

1. Of post-scarlatinal diphtheria .36 of 1 per cent.

2. A number, not stated, of cases of scarlatina accompanied in the acute stage with membranous exudation.

3. Some cases with diphtherial exudation admitted which proved not to be scarlatina.

It is noteworthy that in the report of Dr. R. A. Birdwood, the Superintendent, no mention is made of the bacteriologic differentiation of the several forms of throat exudations.

As, however, with every advance in our knowledge, we find that the practical benefits are often limited by unforeseen difficulties, we find that these bacteriologic results at once bring into prominence the difficulty which a health officer finds in dealing with cases of sore throat. Summed up, they are:

1. That the physician, being by these recent investigations made aware that at least 25 per cent. of diphtheria cases are not caused by the Löffler bacillus—or as some would say, are not diphtheria—will naturally hesitate to call a disease probably nonfatal by a name placing it under the ban of the Health Act.

2. That physicians endeavoring, as has sometimes occurred, to hide cases in the supposed interest of their clients, will conveniently shield themselves behind the assertion that they could not tell, nor any one else, whether the disease is diphtheria or not.

3. That supposing the health officer on investigation finds that the Löffler bacillus is not present, he at once is in doubt as to whether the public health interests demand isolation of the patients, or even if he thinks they do, whether he has legal authority to isolate what is not diphtheria.

4. That even though he isolate such cases as he does deem true diphtheria, can he maintain the isolation for the length of time, say four weeks, fixed by the best authorities, as necessary for this disease?

5. That assuming he can differentiate between cases; can he, with the known serious nature of many cases in which the Löffler bacillus is not present, afford to treat these as non-infectious when, as a matter of fact, they must have been caused by germs carried to the respiratory passage from the air or other medium in the same manner as the Löffler bacillus, and therefore infectious?

Personally, from the standpoint of an executive officer, I recognize most serious difficulties as certain to arise from what all must agree is a notable addition to our knowledge of throat diseases. I do not at present recognize, for working health officers having to deal with sore throats with exudations, any other alternative than to continue to insist on the isolation of all cases of sore throat with exudation as being diphtheria or croup within the meaning of the Public Health Act; since, while occasional instances of admitted hardship in an unnecessary extension of isolation may be inevitable, yet they will, on the other hand, have avoided the certain and most serious dangers arising from three-fourths of the cases, which are those of true diphtheria, and will have succeeded as well in limiting those other throat diseases not wholly free from danger.

The old adage seems here particularly applicable: "*Incidit in Scyllam qui vult vitare Charybdim.*"

THE MANAGEMENT OF EARLY ABORTIONS.

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This subject is rendered interesting by reason of the frequency of the occurrence of early abortions, and by the unfortunate consequences so very often resulting, it being a well-recognized fact that a large number of the cases of uterine disease to which women are subject can be directly traced to prior abortions. That by a proper management of these cases many evil results can be prevented, all will admit, and hence exists the necessity of scientific treatment, with the cultivation of some patience, for, as in all forms of pelvic disease in women, there is too great a tendency to speedily resort to surgical methods, the physician not placing sufficient reliance in nature aided by wise, conservative therapeutic measures. Several years since, in this city, a physician just returned from a course of post-graduate instruction in New York, was preparing a table upon which to place a patient to remove the placenta of a six weeks' abortion. The consulting physician, an elderly and very intelligent man, but without any recent post-graduate ideas, suggested that perhaps at so early a period the placenta had not yet "materialized," whereupon the table was put to one side and the patient made a speedy recovery without any surgical aid. Having never yet, in an experience of twenty-six years, lost a patient after an abortion, I am forced to believe that the methods of treatment which I have pursued can not be radically wrong. Other and more active methods may possibly give as good results in other hands, and in country practice, where the physician has not the advantage of telephones and quick transit, a modification of treatment will doubtless often be necessary.

As to the general principles of preventive treatment, I will only say that perfect and prolonged rest is of the first importance. Many cases of threatened miscarriage are precipitated by allowing the patient too early to abandon the recumbent position. The only drugs I ever use in these cases are, opium, potassium bromid and viburnum; and perfect rest is better than all of these. Rest can be better secured with than without them, however, and hence they are valuable aids.

But suppose all our efforts to prevent the threatened abortion have failed, and the expulsion of the ovum is in our judgment inevitable, what course shall be pursued? The thing to be desired clearly is, to have the ovum expelled unbroken, and every step taken should be with this object clearly in view. An unnecessary, a meddlesome interference while the ovum is intact, very generally terminates in the rupture of the delicate membranes, with expulsion of the fetus and retention of the placenta, the very result most to be deprecated, and that should be most carefully guarded against. Therefore I differ emphatically from the recently expressed ideas of Dr. McKinney, of Illinois, who, in a paper before the State Medical Society said: "The only safe rule is to immediately evacuate the contents of the womb in all cases where it is decided that abortion is inevitable, due care being taken to avoid rupture of the membranes." (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. xxii, p. 809.) Rupture of the membranes *can not be avoided*, in my judgment, except in those rare cases in which the cervix is widely open, and even the placenta partially detached; and in these nature will very soon expel the whole ovum much better than the doctor can do it. It must be remembered that the placenta is in the early months—say the third and fourth—very firmly attached to the uterus, and unless loosened by uterine contractions prior to rupture of the membranes, it is very apt to maintain a healthy connection with the uterus when the membranes have been broken by too early manual interference, and may remain an indefinite time, greatly to the annoyance of both patient and physician.

However great, then, the temptation may be, when we find the cervix partially dilated and the membranes protruding, to introduce the finger in the hope of removing the whole ovum, unless free hemorrhage be present, I believe the safe rule is, "hands off," for the presence in the cervix of the unbroken ovum will in a natural manner bring about the dilatation of the cervix and also excite expulsive contractions of the uterine body, and the ovum will often, without any interference whatever, be expelled entire, or the placenta speedily follow the fetus, when a rapid convalescence, with future immunity from uterine disease, may be expected.

Under the circumstances here spoken of, prior to the expulsion of the ovum, ergot is given as a routine treatment, but I have little faith in its power to excite uterine action, since the contractility of that organ is very limited during the first few months of pregnancy, and certainly much more difficult to excite than at or near the full term. Some aid in lessening hemorrhage may possibly be had by the action of this drug on the blood vessels, and by some condensation of uterine muscular fiber, and this action is more efficient when the ergot is given hypodermically. Opium may be combined with it to advantage. This will tend to lessen hemorrhage and secure some rest for the patient while nature is loosening the ovum. Some authors speak favorably of lead, acids, hamamelis, hydrastis and other drugs

at this period, but I have never found it necessary to test their value. Within the first two months, when internal manipulation of the uterus, even in suitable cases, is very difficult, if not impossible, on account of the small size of the organ, Fordyce Barker very strongly advised that a large quantity of hot water, 104 to 110 degrees F., be thrown into the vagina. He says: "I believe that one may always be sure that this will positively, absolutely and efficiently arrest the hemorrhage. In all cases where I have resorted to this method, I have never found it necessary afterward to subject the patient to manipulations for the removal of the ovum. It has always come away spontaneously, sometimes the next day, or the next but one, and absolutely without hemorrhage."[1] This accords with my own observation in early cases, and Leishman says: "In the first and second months, the placenta being undeveloped, the ovum is generally expelled entire with little risk to the woman."[2] Within the period above named, it is not at all likely that the remedies here indicated will fail to check the hemorrhage. If, however, such should be the case, the tampon must be tried before forcible extraction of the ovum be resorted to.

Cases of abortion occurring after the second month of pregnancy are much more complicated because the placenta has grown, and formed many and very intimate adhesions with the uterus, a separation of which is apt to be accompanied with serious loss of blood, and yet the uterus, not having the contractility it later acquires, is often not able to expel the placenta, which hence remains after the fetus is expelled. When called to a case of this kind in the third or fourth month, we should take every precaution to preserve the ovum. If hemorrhage is not considerable, we may use ergot and give nature a reasonable opportunity to try her powers, which often are sufficient to completely empty the uterus. We would not advise too long delay, however, without some interference. Unless the patient can be frequently seen, or if hemorrhage is at all serious or threatens to become so, the vagina should be well tamponed. This serves the double purpose of controlling the hemorrhage and exciting reflex uterine contractions. Neither end can be accomplished unless the tampon be so applied as to exert firm pressure on the cervix, which means that the vagina must be well filled and firmly packed. I have always used the method of Lusk, and desire no better. This "consists in soaking cotton wool in carbolized water, and then, after pressing out any excess of fluid, in forming from the carbolized cotton a number of flattened discs about the size of a silver dollar. The patient is then placed in a latero-prone position, and the perineum retracted by a Sims' speculum. The dampened cotton discs are introduced by dressing forceps, and under the guidance of the eye are packed around the vaginal portion, then over the os, and thence the vagina is filled in from above downward."[3] Fordyce Barker never depends upon any form of vaginal tampon, but always introduces a sponge tent when he thinks artificial dilatation necessary, only introducing sufficient vaginal packing to retain the tent *in situ*. In these days of antisepsis and asepsis, sponge is at a discount, and I would much prefer a tupelo tent as large as can be conveniently inserted, great care being taken to avoid rupturing the membranes in the act of introducing it. Whatever form of tampon be used, the vagina should be well washed out with an antiseptic solution both before each introduction and after the last removal of it.

How long should we continue to employ tampons, to the exclusion of manual interference? If not commenced until dangerous hemorrhage threatens, in very many cases the ovum will be found detached from the uterus at the expiration of ten or twelve hours after its first application, or certainly after a second application of like duration. There is a decided tendency among excellent men to limit the use of the tampon to two or at most three applications of about twelve hours each, when internal manipulation should be resorted to if the desired end has not been accomplished. In spite of antiseptic solutions both in the tampon and by injections, if tampons are retained too long or used too frequently offensive odors will arise, the vagina and uterus will become irritated if not inflamed, and septic poisoning and inflammations may ensue. No absolute rule can be laid down, as much will depend upon the period of pregnancy and the symptoms and local conditions present in each case. I believe, however, that I have never found it necessary to make more than a second application of the tampon in any case. After this, the cervix will be usually found either well dilated or dilatable, when the finger can be carefully introduced and the whole ovum removed, but not always removed whole. The patient may be congratulated when this end is accomplished, for with this her trouble is at an end, and nature will do the rest.

Unfortunately we see many cases for the first time after the fetus has been thrown off, the placenta still remaining within the uterus. Or we may rupture the membranes in unwise efforts to remove the ovum, and find the placenta still adhering more or less firmly to the uterus. The cervix may be closed, or so little dilated as to render extremely difficult any effort to enter the uterus. With this condition present, if the patient is left unaided one of several consequences will result, viz.:

1. The placenta, if not already so, will become partially detached, and hemorrhage, serious, dangerous or even fatal may result. I have seen cases in which syncope occurred from loss of blood under these circumstances. In a case seen in consultation some time ago, the patient was so reduced from repeated hemorrhages resulting from retention with partial detachment of placenta, that she was in a quite critical condition. An excessive pallor, cold surface, nausea, vomiting and an irregular and very feeble pulse were symptoms marking a condition demanding speedy and vigorous interference. Although life may by prompt measures almost always be saved in even apparently desperate cases, yet there is the risk of a diseased uterus and future impaired health.

2. Decomposition of the placenta and its discharge piecemeal, with probable septic infection. The consequence of this may be the death of the patient, a not rare result, or a protracted convalescence, with a damaged uterus, or inflammatory exudations that may terminate in suppuration, thus entailing long continued or permanent suffering and ill health. Very many cases of pelvic disease can be directly traced to just such cases as those now referred to.

3. Uterine action may cease, the cervix close, and

[1] Medical Record, Vol. xv, p. 232.
[2] Op. cit., p. 378.
[3] Medical Record, Vol. xv, p. 222.

for a time the patient feel well. Later, a partial separation of the placenta occurs, marked by periodical pain and hemorrhage, which, if neglected, will result in impaired health. I have removed one placenta that had remained *in utero* sixty-nine days, and another one hundred and fifteen days after the expulsion of the fetus. In neither was there the least evidence of decomposition. The removal was in both cases followed by the prompt recovery of the patients, and in a few months by pregnancy. One woman had a normal labor, the other died in labor from rupture of the uterus, which I have always feared was due to injury inflicted at the site of the placenta. For over three months after the abortion, no symptoms arose in this case demanding the presence of a physician. (Full report in *Am. Jour. Obst.*, October, 1883.)

4. A polypus or a mole may result.

5. Some excellent authorities hold that the placenta may be entirely absorbed, but many likewise oppose this teaching; hence the question must be considered as still *sub judice*.

Since, then, the consequences of placental retention are so varied and serious, the importance of completely emptying the uterus at the time of or soon after the expulsion of the embryo, is apparent. I do not agree, however, with an editorial writer in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, May 26, 1894, who says: "Two courses lie open to the physician: He can either trust to nature, ... or he may take the better course and empty the uterus with his own hands." Such advice is not applicable to all cases, and such a course might prove very unwise. I doubt very much whether or not the practice advised can always be adopted without at times inflicting unnecessary pain and damage upon the patient. The writer quoted above says: "The operation is not a difficult one." Cazeaux says: "Sometimes the adhesions of the placenta are so numerous that it is impossible to destroy them and extract the placenta." Leishman says that from the eighth to the eighteenth week the connections between the uterus and placenta "are often to be severed only with the greatest difficulty." ("Midwifery" p. 378.) Thomas says: "It is no easy task, even for an expert to dilate the cervical canal and remove the placenta." (*Am. Jour. Obst.*, vol. xi, p. 774.) The latter statements more nearly correspond with my own observations, and hence I naturally regard them as the more correct statements. To leave the case to nature or to immediately extract the placenta as stated by the JOURNAL editorial, are not the only alternatives; and whether one of these or neither shall be adopted, will depend upon the conditions present:

1. If the cervix is sufficiently dilated or very dilatable, the finger should be carefully introduced, when, by slowly and carefully insinuating it between the placenta and uterus, the latter may be completely emptied. If any great difficulty is encountered, the patient should be placed on a table and an anesthetic administered.

2. If the cervix is not dilated or quite dilatable, or if the placenta is found to be very firmly adherent, or if hemorrhage is to be feared and the physician live at some distance from the patient, the vaginal tampon should be employed as already described, with a tupelo tent in the cervix when needed, and ergot should be administered freely. Cazeaux says: "The conjoint use of ergot and the tampon rarely fails to arrest hemorrhage and bring on a sufficient degree of contraction to expel the secundines." I think it is a common experience that the placenta is found, after this treatment, completely detached. When this is the case it only remains for us to remove it and cleanse the uterus and vagina. A second application of the tampon is not often necessary, but would be proper if its first application has not accomplished its purpose. Thomas says that, "when a woman is bleeding in consequence of retained placenta, he never invades the cavity of the uterus. By tamponing the vagina the blood will percolate between the deciduæ, rip off the placenta, form a clot in the uterus and subsequently be expelled by uterine contractions." (*Am. Jour. Obst.*, Vol. xi, p. 775.)

There is still another class of cases to which I have not referred. We may first see a case several days after the expulsion of the fetus, but the placenta remains, and an offensive odor is present, with or without fever. The placenta is decomposing and danger is near. These are the cases in which I feel that the most prompt and vigorous measures are justifiable. Fortunately the difficulty in removing the placenta is usually not so great in these as in other cases, since the cervix is, as a rule, open so that the finger can readily pass to the fundus, and the placenta is not so firmly adherent as before decomposition commenced. One caution is necessary, and that is to avoid wounding the uterus in our manipulations, for any traumatism is apt to be followed by the absorption of septic matter, this showing itself by a chill and increased fever soon after the operation. To guard against this result, the uterus should be carefully washed out with an antiseptic solution, both before and after the operation, and during it as well, if any difficulty is encountered. In such cases we should endeavor to avoid instrumental aid, but the dull curette may be found necessary. Here the irrigating curette is very useful. A case in the practice of my friend, Dr. Ackermann of this city, forcibly illustrates the necessity for, and results following the removal of a putrid placenta. He was called to a patient whose temperature was 107 degrees, and found lying loose in the cervix a very offensive placenta. He removed it, washed out the uterus with antiseptics, and in twenty-four hours found the patient's temperature normal. Not often will we secure such happy results as were reached in this case, but when the operation is carefully and thoroughly done, good may be confidently anticipated.

As a rule, quinia in full doses is required in the septic cases, and special symptoms may demand other remedies at times. These will suggest themselves to the intelligent practitioner.

In conclusion, I may say that this paper, while containing nothing new and much that is quite old, is written as a mild protest against the radicalism of the present day; a radicalism practiced by myself before experience taught me that nature, aided by time and the measures here advised, can better expel a premature ovum and entirely cleanse the uterus, thus bringing about complete involution, than can the most expert physician with finger, forceps and curette, when used before nature has prepared the way by softening the cervix and loosening the ovum.

Blank Applications for membership in the ASSOCIATION, at the JOURNAL office.

NOTES ON SPERMINE.

Read at the Chicago Medical Society, Sept. 17, 1894.

BY G. KREIGER, M.D.

SURGEON TO CHICAGO HOSPITAL, ETC.

Last April I had occasion to exhibit before you a patient previously suffering from a severe form of chorea, who recovered completely and permanently after six injections of spermine. Since then I have had an opportunity to see the efficacy of this treatment in a similar case still more pronounced than in the one exhibited.

The patient who now stands before you is a boy, 6 years of age, who has since the last two years been suffering from chorea. During this time he was under treatment of several physicians who applied the common remedies and electricity without success. Last May the boy was brought to Dr. Bettmann for examination of his eyes. Dr. Bettmann, who will report more definitely, prescribed suitable glasses. Two months later the Doctor referred the case to me for a treatment with spermine injections.

When I first saw the boy, his fingers and muscles of the face were constantly jerking in a spasmodic way, and his gait was so uncertain that at times he stumbled. After two injections of 8 minims, the boy became decidedly more quiet, and from the fourth day on, he did not show the slightest symptom of chorea. His nervousness disappeared; his gait, appetite and sleep improved, and his manners and general actions when playing with other children became perfectly normal.

Such rapid changes of the nervous system, especially in cases like this, where any reflections as to the hypnotic influence or suggestive power of a new treatment may readily be excluded, are certainly hard to explain, and answering to many inquiries on this subject, I would like to give my views referring to the physiologic effects of spermine, by quoting a few interesting facts:

After it had been proved that most of the animal glands contain spermine, and that it circulates in the blood, further investigations have shown that it is a very active factor, by its power to promote oxidation. The poisoning effects of many drugs, as chloroform, ether, oxydul of nitrogen, carbon oxyd, strychnia, etc., is due to a disability of the red blood corpuscles to absorb oxygen. This disability is lessened or totally removed by the action of spermine. This explains the reviving effect of spermine injections in narcosis, poisoning by strychnia, etc. It also characterizes the efficacy of spermine in cases with exhausted conditions of the organs and the nervous system, as in phthisis, diabetes, scorbutus, anemia, neurasthenia, marasmus, etc., because all these conditions are brought about by a lack of intra-organic oxidation.

The final effect of spermine will, therefore, be increase of vitality of the respective organs, and the whole organism. That such an increase of vitality, especially in the nervous centers, can really be obtained, has been shown by the following experiments:

1. When after a spermine injection, a frog's spinal cord is cut, the paralysis of the bladder and extremities is not as complete as it usually is without the use of spermine.

2. When a frog is poisoned with strychnia, after an injection of spermine he will not suffer from tetanic convulsions to the extent that he does without spermine.

From such and similar evidences, it is not illogical to conclude that a higher intra-organic oxidation is in fact a self-defense of the organism against agents which in any way have a depressing effect.

This theory is substantiated by the effect of spermine upon cultures of cholera bacilli. A virulent cholera culture, when in contact with sulphuric acid which is free of nitrous acid, shows a scarlet to purple red color, a reaction which is recognized as specific for genuine cholera, and commonly known as the "cholera red reaction." In the presence of spermine this reaction does not take place, the development of the culture is greatly retarded and its virulence is reduced to such an extent that its pathologic effect is about equal to that of the vibrio found in cholera nostras or catarrh of the intestines.

This fact might suggest that a practical use could be made of spermine as a therapeutic agent in cholera. But as the action of chemic substances observed in the test tube does not always correspond with their effect in the organism, it remains to be seen whether or not spermine will act in the above mentioned way within the intestines. The experiment would certainly require to flush the intestinal tract with a large quantity of spermine solution. So far, similar experiments made with antiseptic fluids failed on account of the toxicity of same when given in large doses, and I think in this respect the use of spermine, which is absolutely harmless in any quantity, will manifest a decided advantage of its own over other substances heretofore used for the same purpose.

It will be a question, if spermine can be manufactured cheap enough. As yet, the process of preparation is pretty expensive, and not always successful. I have here a specimen of macroscopic crystals larger than are usually obtained. The liquid is tungstate and sulphuric acid, in which they are insoluble. In order to ascertain the presence of spermine in any fluid, a few drops of the latter may be placed in an evaporating dish and a saturated solution of alloxan added. When heated, the previously colorless fluid will leave a purple red spot which, with caustic of soda or potash, turns to violet, and by addition of acids, is again discolored.

With special reference to chorea, I wish to suggest the following theory for the origin and cure of this disease:

By chemic transformation in the nervous substance, free nitrogen is formed under certain conditions, based upon lack of oxydation. This nitrogen when in proper proportion with lecithin and phosphoric acid forms a substance of very little stability and inclined to rapid dissolution, by which a sudden irritation of the nervous centers is brought about and such irritations become visible by their effect to the various muscles. When the normal oxydation is restored, the noxious nitrogen is eliminated, and in this way the cause of forming an irritating substance is removed.

This theory may seem somewhat artificial or peculiar, but looking over what we know, positively, regarding chemic and pathologic changes in the animal system, we can easily find corresponding facts, which explain the occasionally observed strange action of substance.

During the process of cellular nutrition, the albumen of the cell is changed by regressive metabolism into different products, the last of which is urea. We may distinguish three degrees of differentiation: The

products of the first degree are the albumins, some of which, especially when in contact with noxious microbes, are poisonous; toxalbumins.

The products of the second degree are the derivatives of ammonia. Armand Gautier distinguishes three groups of these: 1, the xanthines; 2, the keratines; 3, the various bases as cholin, muscarin, and acids, as glycocoll and hippuric acid.

The products of third degree are uric acid and urea.

The intermediate products are partly harmless and partly deleterious to the organism. When the latter for lack of further transformation remain in the system, the effect is an auto-intoxication as most clearly seen in uremia. Such auto-intoxications are in fact the cause of many diseases, which can be proven by the different toxicity of the urine. For instance, the urine of a healthy person hypodermically injected into a rabbit will do considerably less harm than the urine of a person suffering from any disease which is based upon weak functions of the organs, or, to speak chemically, upon an incomplete change of substance on account of lack of oxidation. For the same reason the urine discharged during the night shows a higher toxicity than the urine discharged while a person is awake and active. According to Bouchard's investigation the coefficient of toxicity for normal urine is 0.465. This coefficient increases during acute fevers, as scarlet, typhoid, pneumonia, acute tuberculosis, and in all anemic patients to the extent of 50 to 100 per cent. Leprin and Aubert found that hypodermic injections of urine taken from patients with certain nervous diseases causes clonic spasms. The toxicity of such urine is directly proportional to the amount of leucomaines and other intermediate products present. Bainet and Silberet succeeded in preparing three leucomaines from a case of strumex-ophthalmia or Basedow's disease, and experiments with these substances were to the effect that animals inoculated with same showed symptoms similar to the original case. Griffith also isolated from the urine of an epileptic patient a leucomaine, which injected into a dog caused spasms, vomiting, dilatation of the pupils, and finally death.

Such deleterious leucomaines are without doubt forming constantly in our organism, and would do much more harm were they not eliminated or balanced by natural chemism, in particular by oxidation. The necessary impulse for these chemic actions is given by catalytic agents, the analogues of the well-known ferments which are instrumental in the process of digestion.

Some noted physiologists, as Traube, Tacquet, Gautier and others, have anticipated the existence of these agents long before the scientific researches of Brieger and Ehrlich threw light upon the different leucomaines and toxines, and with other investigators of this subject I believe that the most important catalytic agent is found in the substance of spermine.

This idea is strongly supported by the following undeniable facts:

1. The chemic properties of spermine as an oxydizing agent.

2. The clinical observations that removal (extirpation) of certain glands in which this and similar substances are produced, is followed by cachectic conditions (cachexia strumipriva—orchidipriva, Addison's disease.)

3. The stimulating effect of spermine in cases of depressed and exhausted condition.

DISCUSSION.

Dr. Clarke Gapen—The particular phase of the subject Dr. Krieger has alluded to has not received from me the attention it deserves. I have made no trials of spermine in the treatment of nervous diseases, but it is my intention to make a systematic trial of this remedy in conditions of nervous exhaustion, especially those neurasthenias that take the form of mental derangement. I would ask Dr. Krieger in closing the discussion to give his method of using spermine, and the best source from which to obtain it, as I wish to make a trial of it on rather a large scale.

Dr. D. R. Brower—My experience with spermine has been limited. Shortly after Dr. Krieger read his former paper I expressed a wish to try it. At the time I had at St. Joseph's Hospital an exceedingly bad case of chorea of two or three years' standing. Dr. Krieger kindly furnished the material, and a number of injections, I should say a dozen at least, were given the patient, but in that particular case we saw no benefit from its use; but, as I say, the case was an extremely bad one, having resisted all the ordinary forms of treatment. It was such a case as I have time and again seen benefited by the hypodermatic use of arsenic, but in this case that drug entirely failed and the patient left the hospital unimproved. With the Brown-Séquard testicular fluid I have had some experience. I have used the preparation in some cases of locomotor ataxia, epilepsy and neurasthenia. I have used it side by side with the phosphate of sodium, and it has occurred to me that whatever benefits this preparation may have is due to the phosphates it contains, although the Doctor's explanation of the action of spermine is altogether different and exceedingly ingenious, and may be correct. In several of these cases I tried the phosphate of sodium side by side with the testicular fluid, and if there was any advantage I think it was in favor of the phosphate of sodium, and I quite indorse the observations of those gentlemen who have suggested this remedy as a substitute for the animal compounds. One of our most striking cases was one of spinal sclerosis that had passed, as was supposed, into the paralytic stage. It seemed to be a case that was past any sort of benefit from remedies, but the use of the phosphate of sodium gave that man a start toward improvement and, while he is not well, he is no longer bedridden. In this case we tried for a time the Brown-Séquard testicular juice with scarcely any benefit. I am very glad to have heard Dr. Krieger's paper, and I shall take pleasure in pursuing some experiments with spermine. This boy he has presented to-night with chorea of two or three years' standing, to be improved to the extent he has been by half a dozen injections is certainly very remarkable, and I do not think the effect can be explained by suggestive therapeutics, but I think it shows the remedy is of value. There are some cases that will not yield to anything, and I am inclined to think the case we experimented upon at the hospital was of that sort. I think this is due to an organic change in the brain that neither spermine nor anything else probably will remove. I wish personally to thank Dr. Krieger for his contribution to the therapeutics of this disease.

Dr. Boerne Bettmann—I do not intend to make any statement about the action of spermine, because I have had no experience with it, but I rise merely to corroborate the statements made by Dr. Krieger as far as they have reference to the history of this little boy. He came to me several months ago suffering from chorea. Whether it was a case of hysterical chorea or so-called chorea minor, I do not know. I learned from his mother that he had been suffering from the trouble for some time, and he certainly manifested all the symptoms of chorea at that time. Thinking probably it might be due to some error of refraction, I placed the boy under homatropin and succeeded in establishing a hypermetropia of about two and one-half dioptries. It is an interesting fact that during the time he was under the influence of homatropin, his mother noticed that the choreic symptoms decreased markedly, and thinking that probably the chorea was reflex and due to spasm of accommodation I kept him under the influence of atropin for a week or two, and at the expiration of that time he returned to my office without having further improved, although

while under the influence of the mydriatic the symptoms did decrease somewhat. I then gave the boy a correction of about one and one-half dioptrics. He came back in a week without having improved and he was then sent to Dr. Krieger. After a few injections of spermine he again came to my office, and was then in the condition you see him this evening. Since then I have heard from the father that the child has discarded his glasses. There has been no reappearance of the attacks of chorea.

DR. H. T. PATRICK—I hope Dr. Krieger will not detract from the value of his paper by failing to give the symptoms of this case more in detail when it is published. From his statement we do not know whether it was hysterical chorea or the ordinary chorea minor, and anybody hearing or reading the paper could say that it was not proved to be a case of chorea at all. I simply call attention to this omission that the value of the paper may be increased.

THE PRESIDENT—I will ask Dr. Krieger when he closes, to explain to the members of this Society the difference in the action of spermine and nuclein.

DR. C. G. KRIEGER in closing the discussion said: In regard to the question of the President I will state that I have not had experience in using nuclein. From a chemic standpoint it is altogether different from spermine, which has a certain formula and is uncomplicated, while nuclein has no formula at all to my knowledge, or at least a complicated one, so I do not know how I could make a comparison between nuclein and spermine. With reference to the dosage, I generally start with small hypodermic doses of the solution of spermine, about 7 to 8 minims for an adult, and for a child 3 to 4 minims, gradually increasing to the full dose, which is 15 minims for adults, and 8 to 10 minims for children. I first give one injection every day, and if I see quite an effect from it I usually give one injection every other day for two or three weeks or longer. As a rule, I discontinue the treatment after the tenth or twelfth injection, to see what effect it will have.

1003 Columbus Memorial Building.

Surgeon-General Sternberg's Annual Report.

After presenting a statement of the disbursements made during the fiscal year ended June 30, 1894, the Surgeon-General discusses various matters of interest pertaining to his department, of which the following abstract gives a satisfactory account:

Library of the Surgeon-General's Office.—There are now 114,567 bound volumes and 183,778 medical pamphlets and theses in the Library. Volume XV, of the Index Catalogue, including from "Unversidad" to "W," forming a volume of 842 pages, has been completed and is now in the printer's hands. The preparation of the manuscript of Volume XVI is already well advanced.

Army Medical Museum.—The total number of specimens received during the year was 1,363; the number on hand June 30, 1894, was 32,269.

Artificial Limbs.—During the fiscal year there were furnished, under the laws relating to artificial limbs, 343 artificial legs, 4 arms, 2 feet and 2 apparatus, and the commuted value of an artificial leg was paid in 2,997 cases of amputation; of an artificial arm in 3,184 cases, and of an artificial foot in 72 cases. Commutation was paid also in 3,496 cases in which the use of a limb was lost. The money expended consisted of $586,391.44 from the appropriation for the year, $4,823.55 from the appropriation for 1893, and $500.40 from that of 1892—a total of $591,715.39.

There are at the present time 16,750 approved cases of loss of limb or loss of use of limb on the rolls; 3,395 cases of loss of arm, 3,603 cases of loss of leg, 99 of loss of foot, and 9,653 of loss of use of limb. These cases come up for payment every three years. Their commutation value amounts to $927,575, but as about 500 cases elect to be furnished with limbs in kind, this sum has to be increased by about $20,000 for the transportation of these maimed soldiers from their homes to the place of manufacture and return. It is estimated that the whole of the $194,000 appropriated for the current year will be required to meet the cases maturing during the year, and that $130,000 will be required for the next fiscal year.

Army and Navy General Hospital.—Fifteen officers and 101 enlisted men were admitted. Five of the former recovered after an average stay of ninety-four days. Of the latter, fifty-nine or nearly 58 per cent. of the whole, were returned to duty. Among those returned to duty were several men whose discharge for disability had been recommended by post surgeons. The Commanding Officer renews his recommendation for the introduction of electric light, and that cottage quarters be built on the grounds for the junior medical officer and the quartermaster, who now have to live in the town of Hot Springs. I concur in these recommendations.

Providence Hospital, Washington, D. C.—Relief was afforded, under the appropriation for this hospital, to 1,051 destitute patients. The average number treated daily was 104; the average number of days treatment per case was 36.

Medical Officers.—During the year the Medical Department of the Army lost eleven of its members; one by death, an assistant surgeon-general with the rank of colonel; and ten by retirement.

An Army Medical Examining Board was convened in October, and remained in session during the month for the examination of candidates to fill the vacancies then existing. Thirty-seven candidates were invited to appear before the Board; five of these were found qualified and were thereafter appointed assistant surgeons with the rank of first lieutenant.

At the close of the year there were ten vacancies in the number of appointments then allowed by law, and a board had been convened to select the individuals to fill these vacancies; but inasmuch as the Military Committee of the House of Representatives in drafting the Army appropriation bill for the current year seemed to regard a reduction of the numerical strength of the Medical Corps as desirable, the order convening the board was at my request rescinded, and the candidates who had been invited to appear for examinations were notified of the indefinite postponement of the examinations. The bill when passed directed that the number of assistant surgeons be reduced to 110, a loss to the Corps of 15 young officers instead of 35 as originally proposed.

The report of the Committee on Military Affairs to accompany H. R. 6373, the appropriation bill above mentioned, says: "When this Department was re-organized by law in 1869 there were 210 military posts and stations in the country. This number has already been greatly reduced, so that there are now but 120 military posts and stations, and a still further reduction is proposed and will be effected within a few years. It is evident that if 193 officers in this Department were sufficient when the number of posts and stations was 210, there can be as great a reduction as is proposed in this bill when the number of posts and stations is reduced to 120."

As a matter of fact there were 184 acting assisting surgeons in service in 1870, after the re-organization referred to, and these acting assistant surgeons performed all the duties of junior medical officers. They were made responsible for medical property and were ordered wherever their services were required, in the field with troops, as assistants at large posts, and as post surgeons at small posts. As the number of posts was reduced and the exigencies of the service permitted, their number was reduced until in 1893 none remained in service. At present, private physicians can be employed only by the visit, and there is no proviso of law by which they can be placed in charge of the Medical Department at a military post. They are therefore not available for taking charge of a post hospital and the medical and hospital property necessary for the care of the sick and wounded of a garrison, or for the discipline and drill of the Hospital Corps detachment, for the sanitary supervision of the post, or for medical services to the families of officers and enlisted men.

The report of the Committee further states that: "It may be necessary in several instances to employ outside attendance of physicians for these smaller posts, but that can always be done and efficient services secured at a cost of from one-fifth to one-fourth of the present average of salaries of the officers of the Corps." As a matter of fact private physicians have been employed during the past year and are now employed at all the arsenals of the country. The number of men at those stations is comparatively small and a saving is made by paying for medical services by the visit. But it is a mistake to suppose that private physicians could be employed at garrisoned posts, whether large or small, at the low estimate cited above. Indeed I question if there are more than half a dozen posts in the country where satisfactory medical attendance could be provided at less cost than the pay of an Assistant Surgeon of the Army, $133.33 per month. Moreover, a post medical officer has various and important duties to perform in addition to caring for the sick. In fact his presence as a member of the garrison is more important than that of any other officer, for no other officer can perform his duties, whereas any line officer pres-

ent can perform the duties of quartermaster, commissary of subsistence, adjutant or commanding officer of a garrison. The Major-General Commanding, on page 12 of the Committee's report is cited as saying: "At military posts it is in my judgment impracticable to supply the necessary service, including that in the hospitals, in any other way than through the regular commissioned officer."

The report of the Military Committee further says: "In time of peace these men (enlisted men) and officers should be, generally speaking, in sound health physically and mentally." Great care is exercised in the examination of recruits and they are in sound health physically and mentally at the date of enlistment; but under the most favorable circumstances a considerable number require the services of a physician after enlistment. This is shown by the fact that at the three recruiting depots, all in comparatively healthy localities, the average number on sick report every day during the year ending June 30, 1894, was

At Columbus Barracks, Ohio	57.68.
" David's Island, N. Y.	24.49.
" Jefferson Barracks, Mo.	24.80.

It may be observed also that these averages represent the number borne on sick report; probably an equal number at every post has to be examined and prescribed for, although not taken up on the reports.

Again, an important part of the duty of a medical officer in a garrison is to decide whether enlisted men who report themselves sick are in reality unfit to perform their duties, or whether they feign sickness for the purpose of avoiding their duties. A private physician called in by the visit is not present at sick call to determine this question, and when it is left to the decision of a non-professional person, a company officer or non-commissioned officer for instance, the man who feigns sickness has a better chance of success and the really sick man is often compelled to do duty because he is suspected of malingering.

It is, however, when troops are ordered out for active service that the weakness of a Medical Department, consisting in part of medical men attending and paid by the visit would be mainly felt. The principal reason for supporting an army in time of peace is that an efficient organization may be maintained which will be ready for service in any emergency and serve as a nucleus for the larger army which will be required in case of war. This applies to the Medical Department as well as to the fighting force. The duty of our medical officers is not only to attend to the sick at their stations, acting at the same time as health officers for their command, but to be prepared, and to prepare their Hospital Corps detachments, for any emergency, and especially for field service. The call to service in the field is more common in our army than is generally supposed. During the year 1893 the number of men constantly in the field was 789, as reported by the 69 medical officers who were out with the various detachments which constituted the average field strength. The largest number of medical officers out in one month was 23, in September, with detachments aggregating 2,954 men, and giving an average strength for the month of 1,663 men. It is for such field service that the need of the junior officers of the Medical Department is chiefly felt. In 1892, 76 medical officers were on field service, the average number of men thus serving having been 1,010. In 1891, 93 medical men were out with various detachments of troops having an average strength of 899 men, and in 1890, 143 medical officers with an average strength of 1,210 men. If attendance on the sick at military posts be made the gauge of the strength of the Medical Department, no provision of medical officers can be made for troops on active service unless certain posts be deprived of their medical officers.

During the recent troubles at Chicago, Ill., when 1,775 men were suddenly concentrated in that city, 3 medical officers on leave of absence threw up the unexpired portion of their leaves and reported for duty with the troops and thus helped out the Department in the emergency.

It must be remembered, also, that medical officers are as liable as other officers to break down under the exposures and accidents of field service or from other causes. During the past three years a little over 5 per cent of them have been constantly non-effective from sickness, or 10 officers of the 192 allowed by law up to the time of the passage of the current appropriation bill.

Again, these officers are as much entitled as other officers to leaves of absence; but inasmuch as the Regulations of the Army prescribe that leaves will not be granted "so that a post will be left without competent medical attendance," many of the medical officers have to do, year after year, without leaves such as are enjoyed by others. During the past ten years the leaves of absence granted to medical officers were equivalent to an average leave annually of a little less than fourteen days for each. To enable the Department to permit its officers to have one month's leave annually and at the same time provide competent medical attendance at posts, a strength of 8.3 per cent. is needful over and above that necessary to man the posts.

In view of these considerations I regard with regret the policy which has cut off fifteen officers from the Department.

The Army Medical School.—I take pleasure in reporting the successful establishment of the Army Medical School authorized by General Order No. 51, A. G. O., June 24, 1893. The value of a special course of study for passed candidates for the military service is recognized by the Medical Department of many European armies. The absolute necessity of special training for the officers who are to be intrusted with the great responsibility of keeping the army in its best sanitary condition was demonstrated in the British service during the progress of the Crimean War; and their Army Medical School was a product of the experience so dearly bought in that war. It has been in continuous and successful operation since 1857. The duty of an army medical officer is to preserve the efficiency of his command by guarding it against unsanitary influences and preventing disability from diseases that are known to be preventable. To this end he examines every candidate for enlistment, rejecting those who have any imperfection of physique or taint or weakness of constitution that would probably result in disability under the ordinary exposures of active military service; and he exercises a careful supervision over the health of the soldiers, that the sound physique brought with them into service may not be injured needlessly. To accomplish this in a satisfactory manner requires special training. Any well educated medical man may be placed in the wards of a hospital and intrusted professionally with the care of its sick; but this, although of high importance, and particularly from the point of view of the patient, is a minor duty compared with that of preventing or suppressing the sickness that would otherwise fill the wards. The medical graduate, equipped as a general practitioner, is not qualified for such duty. Some of our medical officers have not only recognized this defect in the qualifications of their juniors, but have appreciated how much better their own early work might have been had their education been perfected as is that of the British medical army officer at the Army Medical School at Netley, England. I need hardly say, therefore, that the want of such a school in this country has been greatly regretted, particularly by those who are conversant with the work of the European schools. The absence of facilities—of teachers, lecture rooms, laboratories and their equipment, has always presented an obstacle to the realization of any suggestion in this line. The expense of building up such an establishment and meeting its current requirements seemed to throw the proposition out of consideration in view of the small number of young men that would be required annually to undertake its course of study prior to filling the vacant places in the Medical Department. And yet the very paucity of the number is, in my opinion, a principal reason why the abilities of each individual joining the corps should be trained sedulously in the lines of his future work. It is on the efficiency of the members of the Medical Department of our small army that the care of the sick and wounded of the armies of the United States would chiefly devolve in the event of war. Every expenditure whether of effort or of money for the improvement of the Medical Corps is a sound investment, which will produce returns in an improved sanitary condition of our Army in time of peace, but will bear its best fruits, its golden harvest of good work, in those times of anxiety and danger when the services of an army are needed for active field operations.

Being fully convinced of the accuracy of these views it was with much satisfaction that I recognized the possibility of improvising a school which, although adding nothing to the expenses of the Army Medical Department, would afford all the advantages that could be derived from one costing heavily for its establishment and maintenance. The building provided by Congress for the Library and Museum gave the necessary lecture rooms, and the accumulation of material for bacteriological and chemical study in the Army Medical Museum furnished everything essential for laboratory work, so that by utilizing these, together with the abilities and experience of those medical officers already on duty in this city, who have been appointed members of the Faculty, I

was enabled, with the approval of the Secretary of War, to inaugurate this important work. The transfer of the Hospital Corps Company from Fort D. A. Russell, Wyoming, to Washington Barracks, completed the equipment of the School by providing facilities for instruction in drill, company administration, first aid and battle-field management.

The report of Colonel Alden, President of the Faculty, which I have embodied in my own report, gives the details of the course of study during the session beginning Nov. 1, 1893, and ending Feb. 28, 1894. To this interesting document and its appendices I desire to invite attention, as showing fully the scope of the work of the School and demonstrating its importance and value.

I desire, also, to thank the members of the Faculty for the earnestness with which they entered upon the work of the session, and carried out its details, notwithstanding the large amount of additional labor which this imposed upon them. Most of these gentlemen served during the War of the Rebellion, holding positions of high responsibility in the Medical Department, and are eminently qualified to hand down to the younger generation the lessons of their earlier experiences as modified by after thought and matured study. Without their hearty coöperation the School would have been one only in name. This coöperation so zealously given has been a source of gratification to me in manifesting the complete concurrence of these officers in my views not only as to the importance but as to the practicability of the undertaking. I unite with Colonel Alden also in thanking the gentlemen who kindly enriched the course by valuable lectures on special subjects.

The progress of the School has been watched with interest and approval by the medical profession, and particularly by the medical officers of the National Guard.

In concluding this subject I desire to invite the attention of the Secretary of War to the recommendation given by Colonel Alden, that the examination of student officers at the close of the session be taken into consideration in determining relative rank. At present the rank of these officers is already fixed, by the examination for entrance, when the session begins, and their work during its continuance can not alter their relative standing. This takes away an important stimulus to well doing. I therefore concur in the recommendation of the President of the Faculty that the relative rank of those commissioned on the same day be made dependent on the result of the examination by the aforesaid Board, and that of the examination held by the Faculty of the School at the end of the session, and recommend that legislation authorizing this change be asked for.

Inspections by Medical Directors.—I desire here to place on record my appreciation of the value to the Medical Department and to the Service generally, of the inspections made by medical directors under the requirements of A. R. 1662. These visits to the military posts in their departments are of great importance to medical directors, for without the thorough knowledge acquired by personal observation and inquiry it would be impossible for these officers to discharge their duties intelligently. It is an every-day occurrence for communications relating to suggested changes and improvements to be referred to them for their views and action. Necessarily the value of their opinion in such cases depends on the accuracy of their knowledge of the sanitary conditions involved. In like manner the satisfactory performance of many of their duties depends on that intimate knowledge of the character and professional qualifications of their subordinates, which can be obtained only by personal contact. The Surgeon-General in making allotments for the construction and repair of hospitals and hospital stewards' quarters, and in making assignments of medical officers and others, has frequently to be guided by the views of medical directors who owe their more intimate knowledge of the facts in any case to the opportunities afforded by these inspections. There are, moreover, many articles of drugs, surgical instruments and appliances, microscopes and microscopical accessories, and chemical and bacteriological apparatus, which require expert knowledge for their inspection. It is impossible for an officer who is not a medical man to act appropriately on such articles. It is impossible also for a non-medical inspector to determine the professional qualifications of medical officers, or to appreciate the methods of treatment carried out in the hospitals, or the progress of the Hospital Corps members in pharmaceutic and other special work. Nor can the non-medical inspector take the place of the medical director in advising the younger officers of the Medical Corps in difficult medical or surgical cases or on mooted points of local sanitation which often involve large expenditures of money.

Hospital Corps.—The work of the Hospital Corps continues to demonstrate the wisdom of establishing this branch of the Service, not only by the better care of the sick and wounded at our military posts, but by its efficiency in field work during the recent riots. The number of Hospital Corps members in service June 30, 1893, was: Hospital stewards 122, acting hospital stewards 79, privates 589. The authorized quota consisted of 146 hospital stewards, 95 acting hospital stewards and 598 privates; but from motives of economy a continuous effort was made to have the current work of the Corps performed with the smallest number consistent with satisfactory results. The appropriation for the year for the support of the Corps was $215,000. By carefully watching the numbers from month to month so that the cost for each period should not exceed its proportion of the appropriation, the expense of the Corps has been kept within this limit.

The Schools of Instruction have continued their highly valuable work, and although it has not been practicable on account of necessity for economy in transportation, to secure the instruction of the Corps at large at these schools to the extent that is desirable, they have been of great and essential service, especially in the case of those enlisted from civil life. The training given at these schools covers all the duties which the Hospital Corps non-commissioned officer or private is liable to be called on to perform, viz., nursing, and first aid to the sick and wounded; pharmacy and dispensary work; clerical work in the preparation of papers and reports; cooking, mess management and such field work as pitching of tents and cooking and caring for the sick in the field.

The instruction of company bearers in stretcher drill and first aid has been continued during the year at all the posts, but as has before been pointed out, under great difficulties owing to the impossibility of securing the regular attendance of the bearers and their frequent change of *personnel*. It has been suggested and the suggestion has been acted on at some posts experimentally, to instruct each organization at the post in turn in these duties, under the idea that it would be desirable that as many men of each company should be acquainted with the stretcher drill and the principles of first aid as possible, so that in case of action or emergency there would be a certainty of having qualified bearers on hand.

Identification of Deserters, etc.—Fewer identifications were made during the past year than in any one of the three preceding years; 76 in 1891, 97 in 1892, 133 in 1893, and only 60 during the past fiscal year. This diminution in the number of identifications is not to be attributed to any defect of the system. It is the natural consequence of its successful operation. When deserters and others, of the kind sought to be identified by the outline figure card system, become aware that detection is sure to follow their examination for enlistment they will naturally avoid the recruiting office. The object of the system is to keep the ranks free from these undesirable men; and it is accomplished by excluding them even better than by weeding them out.

The office has now accumulated the cards of a little over 9,000 men whom it is desirable to keep out of the ranks; and should any one of these men present himself for enlistment under an assumed name his identification would follow as soon as his outline figure card was received.

Medical Department of the National Guard.—Although there has been but little official communication between the Medical Department of the Army and that of the National Guard, the fourth annual meeting of the Association of Military Surgeons of the United States, held in Washington in May last, afforded an opportunity for personal contact and interchange of views between the members of the various organizations. This Association was organized by the surgeons of the National Guard for coöperation in making the medical department of the military forces of each State thoroughly fitted to take its place in the field, either by itself or as a component of a National Medical Department. This office looked favorably upon the organization of the Association as a medium by which it might keep *en rapport* with the medical corps of the State forces, and sent delegates to its meetings to ascertain the views and practice of these medical officers. The meeting in Washington was attended by the Army medical officers on duty in and near the city, and by several from neighboring posts in the Department of the East. Several others, who were prevented from being present by their duties or the distance of their stations, sent valuable papers on professional subjects to be read by proxy. The Association was pleased to elect me its presiding officer for the coming year, an honor which I re-

garded and accepted as a recognition of my official position, and which gratified me as demonstrating the closeness and strength of the bond uniting the Medical Department of the Army to that of the military forces of the States.

Health of the Army.—The health of the Army has differed but little during the year from that shown by the best of our medical records. The admission rate per thousand of strength present was 1,289.04, practically the same as the rate of the previous year, 1,270.42, a great improvement on the average annual rate of the previous decade, 1,424.20, and only slightly greater than the lowest rate, 1,247 (in 1887) ever furnished by our troops. The number of sick daily was 40.15 per thousand of strength as compared with 39.60 during the preceding year. The number of days lost by sickness was equal to 14.7 for each member of the strength of the Army, as compared with 14.5 days during the preceding year and with 15 8 days for the average annual number of the previous decade. The rate of discharge for disability reached its lowest point this year, only 14.93 per thousand of strength, as contrasted with 18.35 during the preceding year and with 28.82 during the years of the previous decade. The lowest rate recorded prior to that of the present year was 17.23 in 1891. This satisfactory result is certainly due to the greater care taken in the selection of men for enlistment, for were it owing to the retention of disabled men the non-effective rate would give evidence of the fact. The deaths from all causes equalled a rate of 6.91 per thousand living, the lowest rate heretofore recorded having been 6.33 in 1889. Last year the rate was 6.44 and during the years of the previous decade 8.51. Excluding accidents and injuries the death rate was 4.01 which is practically the same as that of the year 1889, the year of least mortality when the death rate from disease was 3.95 per thousand living.

Omitting from consideration detachments, arsenals and small posts, the recruiting depots Columbus Barracks and Davids' Island in the Department of the East had the largest admission rates. The rates of the former have always been high and are due to the location of the depot within the limits of a city. Reference has been made to this in previous reports from this office. During the past year one-third, 333.33 per thousand of the strength present, was affected with venereal disease and the disability caused by this was equal to 24.08 men, per thousand of strength, constantly sick during the period devoted to perfecting the physique of the recruits and their education as soldiers. At Davids' Island the admission rate has been steadily increasing for the past five years from causes that are not shown clearly on the reports.

Outside of the depots for recruits, the military posts having admission rates in excess of 2,000.00 per thousand of strength are Forts Bliss and Clark, Texas, Mount Vernon Barracks, Ala., Fort Myer, Va., and Washington Barracks, D. C. The occupation of the new post of Fort Bliss will no doubt lessen the malarial rate hereafter in this locality. The contamination of the spring water supply by surface inflow is believed to be the cause of the autumnal fevers at Fort Clark, where the use of distilled water is expected to suppress their prevalence. The reports do not indicate why the rate at Mount Vernon Barracks is so high, unless on the allowable assumption that the dissipation which gives large rates for alcoholism and venereal diseases increases the susceptibility to all other causes of disability. At Fort Myer and Washington Barracks the increased rates result from autumnal fevers; at other seasons these two posts have excellent records.

The posts having the best records for the year are Fort Custer, with 333 33 admissions and 13.17 non-effective per thousand of strength; Vancouver Barracks, with 518.18 and 15.06; Fort Yellowstone, with 520.00 and 20.77; Madison Barracks, with 600.00 and 21.43, and Fort Niagara with 666.67 and 17.38.

Quarters.—The remarks made in my last annual report concerning the dilapidated condition of the quarters at a number of posts, as at Forts Keogh, Custer and Yates, Whipple Barracks and San Carlos, continue to be applicable at the present time. At Whipple Barracks crumbling foundations, broken ceilings, leaky roofs, with overcrowding and the closing of the ventilators in the ceiling to prevent down draughts, gave rise to many cases of catarrh, sore throat and febrile malaise, and no doubt increased the predisposition to the typhoid epidemic which prevailed at the post during the year. The miserable accommodations at San Carlos were fully described in my last report. At Ft. Grant, Ariz., the barracks are low adobe buildings entirely inadequate and unsuited for their purpose, with little or no space below the floor, badly ventilated and intolerably hot in summer. The old buildings at Camp Eagle Pass are in exceedingly dilapidated condition; four of them have been reported by the post quartermaster as unsafe and not worth repairing. At all these posts modern, airy and comfortable buildings are imperatively needed if they are to be continued in service.

Overcrowding in the quarters of the enlisted men was noted specially at the recruiting depots at Davids' Island and Columbus Barracks. At the former the floor space was at one time inadequate, although the height of the barracks gave a fair cubical allowance. The surface barely permitted a passage between the beds and the expired air of one man was breathed by others before admixture with the general atmosphere of the rooms. At the latter depot some of the beds were so close as to nearly touch; and the large sick reports during the winter months were attributed to this overcrowded condition at a time when the windows could not be left open for free ventilation.

Overcrowding in guard houses was of more common occurrence; and exception was taken to the dilapidated and otherwise unsuitable condition of the building in several instances, as at Davids' Island, N. Y., Fort Marcy, N. M., Fort Sherman, Idaho, Fort Myer, Va., and the Presidio of San Francisco, Cal.

Drainage and Sewerage.—Faults of drainage are mentioned in the sanitary reports of the year at three posts only: Angel Island, Cal., Fort Grant, Ariz., and Fort Brady, Mich. The disposal of waste water by open drains is unsatisfactory at Ft. Sully, S. D. The pits at Fort DuChesne, Utah, fully described in my last report, have been replaced by earth closets. Faults in the sewerage system and plumbing of Fort Whipple, Ariz., and Fort Sill, Oklahoma, have been reported. Blocking of sewers occurred at Forts Wadsworth and Schuyler, N. Y. The imperfect and dangerous condition of the sewerage system at Fort Monroe continues as stated in my last report.

The construction by the city of San Francisco of a sewer, called the Locust Street sewer, across a part of the reservation of the Presidio, has resulted in a nuisance which has continued for the past eighteen months. The sewage enters a little rivulet which flows over the southern margin of the reservation into a marsh just below the post hospital where it spreads over the surface. This nuisance should be abated.

Water Supplies.—The water wagon continues in use at Fort DuChesne, Utah, and camp at Eagle Pass, Texas. An insufficient supply was reported from Fort Hamilton, N. Y., and Jefferson Barracks, Mo. At Fort Warren, Mass., and Fort Grant, Ariz., insufficiency was remedied during the year. Improvements in the supply were reported from Fort Bowie, Ariz., Fort Niobrara, Neb., and Mount Vernon Barracks, Ala. A good and free flowing well of water had been obtained at Fort Stanton, N. M., and an artesian well sunk at Fort Myer, Va. The question of a water supply at Fort Reno remains unsettled.

Food and Cooking.—Considering the large number of posts from which reports are received, regularly, covering the subjects of food and its cooking, the small number of references to deficiency or inferior quality of the articles of the ration or to faults in their preparation, demonstrates the amount of care and attention given to these matters by the officers responsible.

From several posts, such as Forts Supply, Reno and Sill, fresh beef was reported at certain seasons as dry, lean, tough and with an excessive proportion of bone. So long as beef contracts are awarded for so long a period as a year, and at a price which prevents the contractor from supplying any other beef than that from the neighboring ranges, poor beef is to be expected with every failure of the local pastures. The suggestion of the Post Surgeon of Fort Sill that contracts should be made to cover two periods appears to merit favorable consideration. From May to December the local pastures are good and contract should be made with a view to accepting range fed beeves; but during the remaining months of the year the stipulation should be explicit for corn fed beef or its equivalent in grade.

Clothing.—During the year many reports were received concerning the unsatisfactory character of the shoes issued to the troops. They were characterized as stiff, heavy and ill fitting. Late in the year a new style of calfskin shoe was issued which is reported as being an improvement on that formerly provided.

The adoption of a white uniform for troops serving in warm latitudes is regarded as having contributed to the health and comfort of the men. The Post Surgeons of Forts Sill and Barrancas speak strongly in favor of this uniform during the heated months.

Habits, Cleanliness, Athletic Exercises, etc.—The reports of medical officers regarding the habits of the men are generally favorable. At some posts where houses of bad repute are established in the vicinity, the sick report often becomes burdened with the results of dissipation, particularly after pay day. The unfortunate exposure of the recruits at Columbus Barracks to harmful influences of this kind has already on several occasions been pointed out.

Several references to inadequate facilities for bathing have been noted, but none charging any command or part of a command with lack of personal cleanliness. Inadequate provision is reported from Forts Canby and Washakie, Key West and St. Francis Barracks, and from San Carlos and Camp Eagle Pass.

The benefit accruing from systematic work in gymnasiums is appreciated by all army medical officers.

Report of the Surgeon-General of the Navy.

The report of Surgeon-General Tryon embraces a statement of the naval hospital fund, the naval medical establishment and other matters of interest pertaining to the Bureau of Medicine and Surgery. It has been the endeavor of the Bureau to have the Medical Department of the Navy as efficient as it can be under existing laws, and, so far as the appropriations will allow, to have the hospitals at different stations always in readiness for the reception of their full quota of sick, to make modern changes and improvements, to pay special care to roads and grounds, and to keep the buildings in a proper state of repair. To this end the electric light has been installed at the naval hospitals at Boston, New York, Washington, Norfolk, Mare Island, and Yokohama, Japan. The repairing and equipment of south wing of naval hospital, Norfolk, Va., fitting up antiseptic operating rooms and introducing elevators at the several hospitals, and supplying them with modern ambulances are all under consideration.

The repairs and improvements made during the year at the various naval hospitals, navy yards and receiving ships are given in the report in detail. A sudden increase of sick at the Naval Hospital, Philadelphia, Pa., required occupancy of the entire hospital, and the north wing, which has been out of commission for several years, has been restored to its legitimate purposes. This part of the building was found sadly out of repair, requiring new water-closets, renewal of surface drains and connections, new water and waste pipes, repair of verandas, roof, gutters, ventilators, chimneys, water-tanks, steam boilers, and heating apparatus, and repainting of all tin, iron, and woodwork to put in habitable condition for the reception of patients. On the completion of the work the hospital will be in condition to meet the wants of the station, and have accommodations for the sick that may have to be transferred from New York during the repairs of the hospital at that station.

The necessity of enlarging and improving the New York Hospital was brought to the attention of the Department last year, and authority was asked and granted by Congress to use $69,000 from the appropriation "Naval Hospital Fund" of the sum accruing from the sale of New York hospital property under Act of July 2, 1890, to the city of Brooklyn. The buildings and grounds have been carefully inspected with a view of commencing as soon as possible the much needed work, and plans and specifications relating to the proposed changes will be submitted at an early date.

Recommendation is made that, through Congressional action, the Secretary of the Navy be authorized to dispose of the hospital at Widow's Island, Me., and that the proceeds of the sale be devoted to the renovation of such naval hospitals as require to be placed in a modern sanitary condition. This hospital was built in 1887, by a special appropriation of Congress, to meet the necessities then existing for some suitable hospital accommodations in a northern latitude for the reception of patients returning home in infected ships. Before the rehabilitation of the Navy, vessels were built entirely of wood; many of them had been in service during the war, and all of them, by gradual decay, filled with rotten timbers and worn-out construction material, defective ventilation, etc., had become susceptible to yellow-fever poison whenever a port in the West Indies or elsewhere was visited where the disease existed. It was almost impossible at that time, in spite of the greatest care and strictest sanitary rules, to keep such a class of vessels free from yellow fever. Scarcely a summer passed but two or more vessels returned with the disease on board, and the only refuge was at some point North, where the vessel could be broken out and the sick sent ashore for treatment. Had like conditions continued to exist, the hospital at Widow's Island to-day would be a most valuable and necessary part of the naval medical establishment. As it is, however, everything is changed; naval architecture has undergone a radical departure, wooden vessels have disappeared, and steel ships of every class and size, well ventilated and equipped, have taken their place. These new steel vessels, with ordinary precautions, are susceptible only in a small degree to the introduction and retention of the yellow-fever poison, and should one of this class of vessels arrive North with the fever, or any other infectious disease, on board, under the present enlightened methods of ship sanitation, the vessel would not be ordered to make a long cruise to Widow's Island, where there is only hospital accommodation without a modern plant disinfection, but would be sent to the quarantine station at New York, where all improved appliances exist, where the sick could be cared for, and vessels with their equipment declared free in a very few days, with little inconvenience, and certainly with much less loss to the Government, than by the obsolete methods proposed to be carried out at Widow's Island. Not a patient has been treated in treated in this hospital since its erection, and the buildings year after year require additional repairs to keep them in serviceable condition. In view of all these facts, it is deemed advisable to dispose of the property as soon as it can be done on satisfactory terms.

The health of the Navy, according to the statistical tables, was most favorable during the year. There are few special hospital notes submitted; but among them it is stated that thirty-three cases of acute pneumonia were admitted into the New York Hospital and that of this number thirty-one recovered and were returned to duty. The average age of these men was 24 years. The rate of mortality was very low, and the number of recoveries correspondingly large. The method of treatment adopted is believed to be largely responsible for the result attained, and consisted in the hypodermic use of sulphate of strychnia, one twenty-fifth to one thirtieth of a grain, repeated every three or four hours, according to the severity of the disease, and liberal doses of alcoholic stimulants.

The health of the squadron in the infected harbor of Rio de Janeiro during the recent troubles in Brazil affords convincing proof of the reliability of sanitary rules, if carefully and closely followed. During periods varying from two to five months the *San Francisco*, *New York*, *Charleston*, *Newark*, and *Detroit*, with a combined complement of 1,762 officers and men, suffered exposure to epidemic influences of yellow fever and the sanitary precautions used against the introduction of the disease were the only safeguard, and proved most efficient, thereby enabling an effective military force to be kept constantly on the spot. While war vessels of every other nation had the disease on board, and while merchant vessels from different parts of the world were, in many instances, deprived of their entire crew, there was only one case, a paymaster's yeoman, on an American man-of-war, and that one, from its history, was preventable. The experience at Rio affords a valuable lesson in sanitary history and should not pass unheeded. Interesting reports have been received from the medical officers of the above-named vessels relating to the epidemic, and when all the replies are received to the Department's circular letter of June 21, 1894, relating to the "precautionary sanitary measures used and supposed to contribute in preventing the introduction of yellow fever on board," it is hoped such reliable information will be obtained that the Department will be able to formulate sanitary rules and regulations on the subject that will be of value as a guide to vessels of the Navy when obliged in future to serve in an infected port. Such "general sanitary rules" embracing special precautionary measures against the introduction of yellow fever and cholera on board vessels of war will be submitted at an early date with the request that they be made Department regulations.

Recruiting.—The examination of recruits for the naval service is one of the most difficult and exacting duties to which medical officers can be assigned, and upon them devolves the responsibility of selecting the material on which the efficiency of our Navy depends. Moreover, every medical officer, when ordered on such duty, should be impressed with the importance of the work on which he is entering, and to which he should devote the utmost care and attention. The conditions of life on board ship to-day are so radically different from what they were a few years ago that far greater care is required in the selection of recruits. Formerly, when vessels made long cruises under sail, and the

men lived practically on deck in the open air, their physical condition, if below par at date of enlistment, would improve. Now, however, on board of our new ships, with complete change of environment, as well as the character of the work demanded of them, recruits should be, as far as practicable, free from all physical imperfections.

Enlistments on seagoing ships should be prohibited by regulation, from the fact that many of our new ships are unprovided with suitable accommodations for such examination; some of them with no examining rooms or sick bays, and even in those having sick quarters, they are entirely inadequate for the proper performance of this work. Conceding, therefore, the benefit that would accrue to the service if enlistments were conducted under more favorable conditions, it is suggested that the Department establish a central rendezvous on shore, preferably at the navy-yard, New York, for the examination of all recruits, suitably fitted up with all necessary appliances for the performance of this duty, well ventilated, lighted and so situated as to be free from all disturbing influences. In the course of a few years the Department would recognize an appreciable improvement in the general health of the Navy, as shown by a smaller annual percentage of sick on board of our ships, as well as a great reduction in the number of medical surveys upon men whose disabilities existed prior to their entry into the service, and who probably would not have been enlisted had their examination been made under more favorable circumstances.

Vacancies in the Medical Corps of the Navy.—During the year ending June 30, 1894, thirty permits were issued by the Navy Department to candidates to appear before the naval medical examination boards in session at New York and San Francisco. Of this number, ten failed to present themselves for examination, five were rejected physically, twelve were rejected professionally, and three were found physically and professionally qualified for admission as assistant surgeons into the Medical Corps of the Navy.

The above record, showing a rejection of 85 per cent. of candidates examined, is not satisfactory, particularly when we contrast the large number of properly qualified applicants for similar positions in the Army and Marine-Hospital services, and the promptness with which such vacancies are filled.

The examination to which candidates for admission are subjected is in accord with the teaching and requirements of our medical schools, being within the capacity of every young medical man, properly equipped for the practice of his profession, and the large percentage of failures, as shown by the record of the examining board can only be accounted for on the supposition that the naval service, from lack of suitable inducements, does not attract the class of men who would tend to advance the standard of professional excellence, or from whom the highest degree of medical and military efficiency might be expected.

Notwithstanding that every reasonable effort was made by the Department to fill the corps, there remained at the close of the fiscal year ending June 30, 1894, eight vacancies.

Attending Surgeons.—Officers of the Medical Corps of the Navy, assigned to duty as attending surgeons in the various cities on the Atlantic and Pacific coasts, have rendered valuable service, and have been able to profit by the advantages offered for the study of diseases and operative work at the large hospitals and dispensaries. Coming in contact with the learned general practitioner and accomplished specialist, they are afforded opportunities for seeing unusual types of disease and accident, and of gaining invaluable professional information to assist them in their future duties on board ship.

Passed Assistant Surgeons.—The bill for the examination and commissioning of passed assistant surgeons, submitted to Congress with the approval of the Department, was favorably considered by the committees of both the Senate and House of Representatives, but legislative action was postponed pending the consideration of the bill relating to the *personnel* of the Navy. A physical, mental, moral and professional examination should obtain for every promotion in the service, and particularly for this grade in the Medical Corps, where, under existing regulations, no examination to determine physical and professional qualifications can be exacted until promotion to medical inspector, an average period of nearly thirty years since the last examination.

It is strongly recommended that the Department urge the passage of the present bill, now pending in Congress, so as to remedy, as soon as possible, the defective system acting so injuriously to the interests of the Medical Corps of the Navy, provided the question is not settled in the *personnel* bill at the next session of Congress.

U. S. Naval Laboratory and Department of Instruction.—The regulation issued by the Department over a year ago, creating a system of instruction for assistant surgeons immediately after passing a successful examination for admission into the Medical Corps of the Navy, has proved as valuable as predicted. The medical officers attached to the hospital, examining board, laboratory and department of instruction, New York, have all been interested in the work, and the rules and regulations during the period of instruction have been fully complied with. Four assistant surgeons have had the advantage of the prescribed course, and the records of their work, on file in the Bureau, afford satisfactory evidence of the manner in which it has been done. Two medical officers have taken partial courses in bacteriology and analytical chemistry, and two assistant surgeons who have just completed successful examinations are at present undergoing instruction.

U. S. Naval Museum of Hygiene.—By order of the Secretary of the Navy, dated Jan. 20, 1894, the old Naval Observatory buildings and grounds, situated at Twenty-third and E Streets, N. W., were transferred to the Bureau of Medicine and Surgery, to be used by the Museum of Hygiene. This transfer was requested, as the rented building was no longer adapted to the wants of the museum, on account of the large and increasing value of the exhibit and the necessity of having it properly grouped and classified for the purpose of study and observation; also to provide proper accommodations for the prosecution of microscopic and bacteriologic investigations, which constitute an important feature in the administration of the museum. The transfer of the exhibits was made on the expiration of the lease of the building, June 30, 1894, and necessory minor repairs were commenced as soon as the naval appropriation bill for 1894–95 was approved.

The interest that has been manifested by the service and by professional and scientific bodies in the growth and development of a museum identified with the practical study and advancement of sanitary science is shown by the steady increase in the number of exhibits. By the removal of the museum to commodious and permanent quarters the object of its organization can now be satisfactorily fulfilled, and opportunities offered for accomplishing good work in the future.

One hundred and ten new exhibits were added to the collection during the past year, including the complete and interesting "model of the system of disinfection practiced at the quarantine station at New Orleans." This model was exhibited at the Columbian Exposition at Chicago and presented to the museum by the Louisiana State Board of Health. Thirty specimens of animal parasites, contributed by the Department of Agriculture, have also been received, remounted and labeled.

The delegate recently appointed to represent the Medical Department of the Navy at the Eighth International Congress of Hygiene and Demography was directed to make a complete and thorough inspection of the museums of hygiene at London and Berlin, and to report in detail. Advantage will be taken of all valuable information thus obtained, and efforts made to make the Naval Museum of Hygiene as complete in every arrangement and detail as establishments of like character abroad.

To provide for the growth and proper classification of the instructive exhibit, so as to show the advances that have been made up to date in sanitary science, and to facilitate the further practical study of hygiene, so essential to the welfare of the Navy and the public at large, it is recommend that a small amount be used annually from the "Naval Hospital Fund" to render the establishment, now organized on a permanent basis, complete in all its appointments. Legislation is therefore requested, authorizing the Secretary of the Navy to use annually, when deemed necessary, from the appropriation "Naval Hospital Fund," a sum not to exceed $5,000 for the benefit and improvement of the present U. S. Naval Museum of Hygiene, located in the old observatory grounds, Washington, D. C.

Statistical Report and Book of Instructions.—The statistical report has been carefully revised and elaborated, having in view the necessity for more complete and accurate data on which to base the health record of the Navy.

As soon as practicable the subject of the revision of the Book of Instructions for Medical Officers will be considered, in order to make it accord with the regulations, general orders and circulars issued subsequent to its publication.

The Bureau has also under consideration the preparation

of a form for the guidance of medical officers in making their annual reports.

Revision of Supply Table.—The supply table of the Medical Department of the Navy has been revised and enlarged to meet the changes and advancements that are constantly taking place in the department of applied medicine. In its preparation the Pharmacopœia has been carefully consulted; new drugs of recognized professional value have been added to the list, and many articles that have become obsolete or regarded as of doubtful utility have been abolished.

The supply of tablet triturates, compressed powders, and hypodermic tablets has been increased with the view of meeting the requirements of the service, and much care and attention have been given to the selection and rearrangement of supplies under the heads of hospital stores, surgical dressings, and dispensary and hospital furniture.

The necessity for such revision becomes obvious when we realize the rapid strides that are annually taking place in all that pertains to modern and progressive medicine, and such changes in the list will be made whenever new appliances and remedies receive official recognition by the profession, and as often as the interest of the service demands it.

There has been a complete revision of the outfit of surgical instruments and appliances, and the Medical Department of the Navy will soon be supplied with every article the practice of modern surgery demands.

Hospital Corps for the Navy.—The necessity of an organized Hospital Corps, well instructed, drilled, and equipped for all duties it is called upon to perform, becomes more and more apparent as new modern vessels of war are being completed and placed in commission. The services rendered by such a corps would be invaluable to the Navy. Its usefulness has already been demonstrated in our Army, and the attention that is being paid to perfecting the system by all first-class naval powers is convincing proof that immediate action should be taken in the matter by our own service. Many important questions relating to the handling of wounded on board modern vessels of war in action, forms of ship ambulances, different methods of transportation, landing parties on shore, instructions to men, first aid to wounded, proper care of sick and wounded ashore and afloat, etc., have all to be considered, and reasonable and effective plans adopted that can only be done by an efficient organization created solely for such special work.

It is strongly recommended that this subject may receive the sanction of the Department and be submitted for legislative action during the next session of Congress.

Ambulances.—It is absolutely necessary that our large hospitals be supplied with ambulances of modern construction, and a system of drill adopted at the different establishments, so as to have a complete and effective system for the transportation of sick and wounded men. This subject has never received the attention it merits, and the delays and discomforts attending the transfer of men to hospital are largely due to the lack of properly constructed ambulances and an efficient organization. Until this service is organized and incorporated in the duties of a Hospital Corps, modern ambulances should be supplied at once to our principal hospitals, which would be a great improvement over the present plan for transporting the sick, and save no end of discomfort and suffering. With light modern ambulances at all of our hospitals, subject to telephone call either night or day from ships or navy-yards, the summons could be answered at once, and there is scarcely a station where the sick or wounded man would not be delivered to the hospital inside of thirty minutes.

The present clumsy method of transportation of the sick and wounded, with their bags and hammocks in the same uncomfortable vehicle, without any pretensions to ambulance fittings, should be abolished.

Sick Quarters on Board Vessels of War.—A special report relating to the importance of providing suitable accommodations on board of our ships for the care and treatment of the sick and wounded of the Navy has already been submitted to the Department. The plans of all vessels in commission undergoing construction and nearing completion, have been carefully examined with a view of selecting suitable locations for sick quarters, and recommendations made when required. On board of ten vessels no quarters are designated for the treatment of the sick and wounded; in the case of the *Minneapolis* the omission was probably due to an oversight, as this vessel was designed on similar lines to her sister ship the *Columbia*. Subsequent to the examination of the plans of our uncompleted warships, the drawings of the armored cruiser *Brooklyn* and the battleship *Iowa* were submitted to the Bureau and, in consultation with the President of the Board of Inspection and Survey and the Bureau of Construction and Repair, suitable sick quarters were located.

It is earnestly suggested that hereafter, before sick quarters are assigned on our ships this Bureau may be consulted as to their location.

Representation of the Medical Department of the Navy at Medical Association Meetings.—Acting upon the recommendation contained in the Bureau's last annual report, application was made to the Department by the secretaries of several associations for the detail of medical officers to represent the Medical Department of the Navy at their annual meetings. Medical officers detailed for such duties were required to notify the Department of the nature of the subjects which they proposed presenting at the meetings, and on adjournment were directed to submit reports in full on the papers presented, and any points of interest that may have developed during their discussion.

At the fourth annual meeting of the Association of Military Surgeons of the United States, which took place in Washington, D. C., May 1–3, last, the Department was represented by Medical Director Gihon and Surgeon Beyer, who read papers on the "Transportation of Sick and Wounded on Board Ship" and "First Aid on the Battle-field," respectively.

At the meeting of the AMERICAN MEDICAL ASSOCIATION, June 5, last, at San Francisco, Cal., the delegates of the Department were Medical Inspector Geo. W. Woods and Surgeon Crawford. The former read a paper on "The Use of Acetanilid in Medicine and Surgery, with Special Reference to its Surgical Applications;" the subject selected by Surgeon Crawford was "Stricture of the Male Urethra." These papers are appended to the report of the Surgeon-General.

Medical Director Gihon was delegated to the meeting of the American Public Health Association, held at Montreal, Canada, September 24, last. His report of the proceedings will be submitted at a future date.

In order that the Medical Corps should be officially represented at the Eleventh International Medical Congress, Rome, Italy, from March 29 to April 4, 1894, inclusive, the Navy Department detailed Medical Inspector Dubois and Surgeon Siegfried for this duty, directing them to report by letter to the Surgeon-General of the Navy for special instructions. The reports of these officers, relating to the subjects to which they were directed to give special attention, and forming part of the proceedings of the Congress, are submitted with the Surgeon-General's report under the head of special reports.

Medical Director Gorgas, in charge of the Naval Museum of Hygiene, was ordered to proceed to Buda-Pesth as the representative of the Medical Department of the Navy, at the Eighth International Congress of Hygiene and Demography, Sept. 1–9, 1894. He was also ordered to report to the Surgeon-General for special instructions in connection with his duty, and his paper on "Naval Hygiene," read before the Congress, together with other subjects of professional interest to which his attention was directed in his letter of special instructions, will be submitted in a future report.

When the system is inaugurated of detailing officers as naval medical *attaches* at important embassies abroad, as suggested in my last annual report, the duty above referred to will be performed by such officers, avoiding the necessity of ordering special delegates from the United States.

SOCIETY PROCEEDINGS.

New York State Medical Association.

Eleventh Annual Meeting, held in New York, Oct. 9, 10 and 11, 1894.

FIRST DAY—TUESDAY, OCTOBER 9.

THOMAS D. STRONG, M.D., Chautauqua County, President.

DR. ZERA J. LUSK, of Wyoming County, reported a case in which he had removed by lateral lithotomy a wire nail, three inches in length. It is said to have been in the bladder for four years. He also reported a successful case of operation for traumatic epilepsy. Ten days after the injury he had trephined and had found in addition to a fracture, a firm epidural clot covering the lower part of the fissure of Rolando. There had been twenty-eight convulsions on the day preceding the operation, and paralysis of the arm and face, with

aphasia. The convulsions ceased two days after operation, and on the fourth day he was able to speak a little.

Dr. E. D. Ferguson, of Rensselaer County, referred to a case in his practice in which, although the symptoms pointed to a lesion rather high up on the fissure of Rolando, the operation revealed a large blood clot near the base of the cranium. This was removed and the patient recovered rapidly.

Dr. Darwin Colvin, of Wayne County, reported a case of epilepsy due to a gunshot wound, in which he had effected a cure by trepanning the skull.

Dr. Eden V. Delphey, of New York County, exhibited a non-conducting speculum made of hard rubber, and intended for use in connection with post-partum intra-uterine douches. He also recounted the principal points brought out in a recent suit for damages. The writer had assisted Dr. A. H. Goelet in anesthetizing a man of 52 years, preparatory to amputating a gangrenous finger. His urine had been previously examined with negative result. After giving not more than 1 drachm of Squibb's chloroform on an Esmarch inhaler, ether was substituted, and administered in the usual way. Just about this time the man suddenly stopped breathing, and in spite of prompt resort to artificial respiration, and its continuance until after the heart ceased to beat, they were unable to resuscitate him. The deputy coroner who made the autopsy reported that he found pulmonary edema and incipient disease of the kidneys, and also pachymeningitis. Judge C. H. Truax, in his charge, instructed the jury to pay no attention to the statement that the family of the deceased had interfered, and had objected to his taking any anesthetic, as they had no legal authority to do so, particularly as the man was competent at the time to judge for himself. He also called attention to another matter of general interest to the medical profession, viz., that if a physician gave any medicine to a patient contrary to that person's wish, the physician was a trespasser, and could be held as such for any serious results that might ensue from the administration of the medicine.

Dr. E. D. Ferguson said that he understood that the courts in Pennsylvania, at least, had held that physicians simply witnessing an operation, without assisting at all, could be held as co-defendants in such a suit.

Dr. J. W. S. Gouley, of New York County, sent a paper in which he suggested the term "typhlenteritis" as being more accurate and appropriate than "appendicitis."

Dr. Joseph D. Bryant, of New York County, in a paper entitled "Some Interesting Cases of Appendicitis," (see page 661) reported four cases of secondary appendicitis, representing various types of the disease, in which he had operated successfully.

Dr. F. W. Goodall, of Vermont, said he had been palpating the vermiform appendix, and he had found it quite easy of accomplishment.

Dr. J. G. Truax, of New York County, said that his experience had led him to believe that if the primary attack was properly treated, there would be very few secondary attacks. The treatment he considered appropriate was keeping the patient in bed on a milk diet, and with an ice-bag over the ileo-cecal region until all induration had vanished. For two or three weeks after this, the patient should be still kept on milk diet, although allowed to be up and around. After this he should have a farinaceous diet for five or six weeks.

Dr. H. O. Marcy, of Boston, defined an appendicitis to be "a proliferation of the bacillus coli communis locked up in a small process of the bowel," and argued from this that we could not freeze them out, or do much good except by operation. After his extensive experience with this disease he was more than ever inclined to go back to his former position as a "radical." One or 2 per cent. represented the mortality from operations performed at an early stage. To operate after rupture of the appendix into the abdominal cavity was only to bring surgery and one's self into disrepute.

Dr. E. D. Ferguson said the fact that operating surgeons saw such a large proportion of cases demanding immediate surgical interference was easily explained. Personally, he had found that the great majority of cases had only a single attack.

Dr. Bryant, in closing the discussion, said that from 60 to 80 per cent. recovered from the primary attack without operation, and that secondary attacks occurred in from 11 to 17 per cent. As it was impossible to tell how near the appendix was to rupturing, he was in the habit of urging immediate operation. He had given up trying to palpate the appendix for two very good reasons, viz.: 1, because he had rarely been able to feel the appendix; and 2, because palpation might very easily give rise to rupture of a gangrenous appendix.

Dr. W. H. Park, of New York County, then read a paper entitled, "Recent Studies on Diphtheria and Pseudo-Diphtheria." After referring to the work of the New York Board of Health, he said that it had been found that the diphtheria bacilli usually persisted in the throat for about seven days after the membrane had gone, and that healthy persons might carry these bacilli in their throats, and so infect others without themselves being sick with the disease. Pseudo-diphtheria had not been found especially contagious. Unlike true diphtheria it was especially prevalent at certain seasons of the year. Experiments conducted at the Willard Parker Hospital had shown that irrigation of the nose and throat with warm normal salt solution was as good, if not better than irrigations with bichlorid of mercury, or peroxid of hydrogen. The antitoxin treatment had also been given a trial at the same hospital, and so far with excellent results, both as to the curative and preventive powers of the antitoxin.

Dr. John Cronyn, of Erie County, then read a short paper in which he argued from the incubative period of the disease, and from the phenomena observed in certain cases, that diphtheria was at first a constitutional infection. He said that necrosis of the mucous membrane must take place before the diphtheritic exudate could make itself manifest.

Dr. Hermann M. Biggs, of New York County, said that as it was known beyond a doubt that true diphtheria bacilli might be present without any membrane, it seemed absolutely essential to a proper sanitary surveillance of the disease that systematic bacteriologic examinations should be made. He had had excellent opportunities of studying the antitoxin treatment in Berlin, and he had found that the eminent scientific investigators there, engaged in studying this method of treatment, of one mind as to its efficacy.

Dr. A. Palmer Dudley, of New York County, read a paper on "The Technique of Cæsarean Section," and exhibited three patients on whom he successfully performed this operation.

Dr. Joseph Taber Johnson, of Washington, D. C., read a paper entitled "Hysterectomy for Uterine Fibroma by Baer's Method, with Report of Nine Successful Cases." He had found convalescence after this operation exceptionally smooth and rapid, and the operation itself was quickly performed.

Dr. W. R. Pryor, of New York County, then read a paper on "Hysterectomy in Pus Cases," in which he advocated the removal of the uterus in addition to the pus tubes, on the ground that a large proportion of such cases were not relieved of their symptoms by a simple salpingo-oöphorectomy. Another argument in favor of this procedure was the fact that the uterus was often the original source of the disease, and in about 20 per cent. of the cases, the uterus had been found to be tubercular. In his opinion, the removal of the uterus added but little to the shock and risk of the operation.

Dr. H. O. Marcy then made some remarks on "The Anatomy and Surgical Treatment of Inguinal Hernia in the Male," illustrating the subject with many stereopticon views.

Second Day—Wednesday, October 10.

Dr. Douglas Ayres, of Montgomery County, read a paper entitled "Fractures of the Inferior Extremity of the Humerus involving the Articulating Surface; with Report of two Cases Occurring in Children." The author thought the best results in such cases would be obtained by: 1, early elevation of the limb; 2, by cold applications; 3, careful immobilization in the bent position; and 4, by an early resort to passive motion.

Dr. A. J. Van Vraken, of Albany County, in discussing the paper emphasized the fact that it was wise to invariably anesthetize children with fractures or dislocations before making the diagnosis.

Dr. John Cronyn said it was rare to get a perfect result in this class of injuries, and consequently it was prudent for the surgeon to state this fact very plainly to the family at the outset, and tell them if they know of any one whom they think will be likely to do any better, you would recommend them at once to procure that surgeon's services.

Dr. Joseph S. Gibb, of Philadelphia, read a paper on "The Stearate of Zinc Compound in Atrophic Rhinitis." The treatment he had found the most successful for this obstinate condition was a thorough cleansing of the parts, both anteriorly and posteriorly, followed by the insufflation of a powder of stearate of zinc containing 25 per cent. of euro-

phen. He had been able to follow thirty-two cases, twenty-seven of which had been entirely relieved of crusts and odor while the moist appearance of the normal mucous membrane had been restored.

DR. DWIGHT L. HUBBARD, of New York County, in discussing the paper, said that while he could from personal experience testify to the benefit to be derived from the use of the stearate of zinc, he still felt that the major part of the improvement noted in the author's cases was to be attributed to his thorough method of cleansing the parts.

DR. GIBB replied that no doubt much of the benefit was due to this cause, but still he had not obtained such good results where the same cleansing process had been used without the stearate of zinc. The chief virtue of the stearate was its adhesiveness.

DR. WILLIAM H. ROBB, of Montgomery County, reported a case of "Suppurative Cellulitis Following an Injury to the Hand." The special interest of the case centered in the fact that in spite of the free use of antiseptics, and finally even of amputation of the arm, the process extended, and eventually proved fatal. This unusual result was attributed by the reader of the paper to the fact that the wounded hand had remained wrapped up in woolen rags full of germs for nearly four hours before there was an opportunity for a surgeon to apply antiseptics.

DR. J. D. SULLIVAN, of Kings County, said that an ordinarily healthy individual ought to have sufficient vitality to resist the onslaught of the microbes for four hours. He was inclined to think the catgut might have been septic. The best treatment for severe cases of this kind was to immerse the limb continually in a bath of some appropriate antiseptic solution.

DR. CHARLES A. CHURCH, of Essex County, said that the effect of the bath treatment could be more conveniently obtained by enveloping the part in bichlorid gauze kept moist with a 1 to 4000 solution of bichlorid of mercury.

DR. E. D. FERGUSON called attention to the liability of having the antiseptic solution become too concentrated by evaporation when applied in the manner just described by the last speaker.

DISCUSSION OF THE PREVENTION OF TUBERCULOSIS.

DR. HERMANN M. BIGGS, of New York County, opened this discussion. He referred to the recent action of the New York Board of Health, compelling notification of all cases of tuberculosis occurring in all the public institutions, and requesting physicians in private to send to the Department similar information. In preference to adopting any plan of disinfection of apartments that had been occupied by tuberculous persons, the Board had decided to require the owner of the apartments to have the rooms freshly kalsomined or papered. If the owner refused to do this, the door of the rooms was placarded, and all persons forbidden to occupy them until the landlord had complied with the requirements of the Board.

DR. LAWRENCE FLICK, of Philadelphia, then exhibited a series of lantern views to emphasize his remarks on the nature of the localities where tuberculosis was most widely disseminated. He exhibited maps showing how health resorts had become an important factor in spreading this scourge. Then followed pictures illustrating the part played by the ordinary life of the tenements. He predicted that as a result of the prophylactic measures now being adopted in various cities—indeed largely by the simple diffusion of knowledge regarding the communicability of tuberculosis—this disease would be completely stamped out in the near future.

DR. J. H. HUDDLESTON, of New York County, spoke of the importance of properly concentrating sputum before examining it for tubercle bacilli.

DR. JOSEPH D. BRYANT described the various steps by which the recent action of the Health Board in regard to tuberculosis had been brought about. It was the result of efforts extending over about five years.

DR. E. G. JANEWAY, of New York County suggested that hotels should have separate rooms, and distinctive bed-clothing and other furnishings for consumptives.

DR. J. G. TRUAX, of New York County, said that tuberculin was now recommended as a diagnostic test, but unless his experience with this agent had been exceptional, it was likely to prove dangerous.

DR. BIGGS replied that Professor Koch, who had been using it extensively in Berlin, had told him that if used in *pure* tuberculosis it was perfectly harmless, and might even be curative; but that when employed in cases of mixed infection, it was certainly harmful.

DR. J. BLAKE WHITE, of New York County, read a paper on "The Diagnosis and Treatment of Pleurisy." He spoke of the sharpness and distinctness of pleuritic crepitation as an important help in differential diagnosis. He did not approve of the treatment by strapping, as he thought it was likely to lead to permanent changes in the lungs and pleurae. Aspiration should be resorted to as soon as the presence of serous effusion was detected. For empyema, simple incision without resection of a rib was the best.

DR. H. O. MARCY, of Boston, paid a glowing tribute to the now historical labors of his old teacher, Dr. Bowditch, in connection with thorancentesis.

DR. CRONYN said he taught his pupils to aspirate before there was more than a pint of fluid in the pleural cavity. It should be remembered that while morphia would relieve the pain of pleurisy it was not like crude opium, distinctly curative.

DR. FRANK VAN FLEET, of New York County, read a paper entitled, "The Treatment of Retinitis Albuminurica in Pregnancy from an Ethical Standpoint." The author showed by quotations from the statutes that the law justified abortion only when this was necessary to save the life of the mother or of the child—nothing was said about permitting it where the mother's sight was jeopardized. As retinitis did not occur until the nephritis was quite advanced many physicians would hold that the mother's life was endangered by the nephritis, and that without taking into consideration the question of the risk to her vision, the prompt termination of pregnancy was justifiable. He then considered at length the moral aspects of the case, giving opinions from certain well-known ecclesiastics.

DR. DARWIN COLVIN, of Wayne County, said that the author had implied that under the conditions supposed to exist in the class of cases under discussion, the death of the fetus was inevitable. This was certainly a mistake, and could be refuted from his own experience. He then reported a case in which he had himself advised the immediate termination of pregnancy, but the patient not consenting to this, she had been liberally bled twice before labor, and had been in due time delivered of a living child. This woman had remained totally blind for about a month after labor, and when he heard from her about one year later was still suffering from defective vision. He had known of two other instances in which notwithstanding marked nephritis, a living child had been born.

DR. E. D. FERGUSON said that fortunately owing to the improved medical and surgical measures of the present time, one was not often called upon to decide absolutely upon the destruction of human life.

DR. CRONYN said the Catholic church consented to Cæsarean section on the assumption that the child would be born alive, and that the risk to the mother was not extreme. It also permitted the induction of premature labor provided the child was viable.

THIRD DAY—THURSDAY—OCTOBER 11.

DR. DARWIN COLVIN, of Wayne County, in a paper entitled, "Reminiscences of a Country Doctor during the past Fifty Years," stated, that in his opinion, the mortality in child-bed was no greater fifty years ago than now. In those days digitalis was almost the sole medicine used for cardiac affections, and when it was remembered that it was prescribed as a depressant, in deference to the then prevailing opinion that all diseases of the heart were inflammatory, one could but feel appalled at the recollection. The older practitioners believed that opium possessed certain curative properties in peritonitis and pleuritis that did not belong to morphia; and to this day he preferred opium to morphia except when he desired to employ hypodermic medication. He did not believe that the next half century would see any such great advances in medicine as had been witnessed in the last fifty years, except in materia medica and brain surgery.

DR. CRONYN, and the PRESIDENT, both spoke emphatically in regard to the greater curative properties of opium in pleurisy and peritonitis, and indorsed fully the statements made by the author regarding the changes that had occurred in medicine in the past fifty years.

DR. THOMAS H. MANLEY, of New York County, in a paper entitled, "A Practical Study of Grave Abdominal Contusions, with a Clinical Report of Twenty Cases," described certain experimental studies that had been made on this subject, and asserted that his own experience had taught him to look upon the free administration of mercury by inunction as of great value in the early treatment of traumatisms of the abdominal viscera.

Dr. John G. Truax, of New York County, read a paper entitled, "Some Facts about the Treatment of Typhoid Fever." After describing the results that he had obtained from the administration of iodin, the use of the cold bath treatment, etc., he stated that he had secured the best result from the use of intestinal antiseptics, and the application of an ice-bag to the ileo-cecal region.

Dr. Charles A. Church, of Essex County, said that he could heartily indorse the treatment of typhoid fever by the administration of intestinal antiseptics. His plan was to give half a grain of calomel and two grains of soda at the outset every four hours until the bowels moved, and then begin the administration of the sulpho-carbolate of sodium as an intestinal antiseptic.

Dr. Farquhar Ferguson, of New York County, then exhibited an interesting specimen of hermaphroditism. The specimens were removed from a person who had been employed as a cook in a physician's family. The hair of the head was like that of a woman, but there had been beard on the face, and the latter, as well as the pelvis, were of the male type. There were a rudimentary penis, a short vagina and normal Fallopian tubes and ovaries. There were also two extremely large supra-renal capsules.

Dr. Frederick Holme Wiggin, of New York County, read a paper on "Intestinal Anastomosis," reporting a case in which he had performed intestinal anastomosis, and also the results of twenty experiments which he had made on dogs. The dangers of the Murphy button he considered to be numerous. It was occasionally retained, necessitating a second laparotomy for its removal; the spring of the button was made sometimes too strong, so that it would cut through the intestine; the weight of the button might, as in a case cited, anchor the bowel in a flexed position, and so cause obstruction; it was liable to become plugged with hard fecal matter; and lastly, the sharp edges of the small lateral openings were very liable to cut through all the coats of the intestine except the peritoneum. He preferred Maunsell's method, which was adapted for any portion of the intestine, and could be readily and safely performed by any experienced surgeon.

Dr. Parker Syms, of New York County, read a paper on "The Arthropathies of Locomotor Ataxia." The pathologic changes found in this disease, he said, involved both the bone and the soft parts, and the process was in the nature of a degeneration rather than an inflammation. It might be either hypertrophic or atrophic. Some of the characteristic early symptoms of locomotor ataxia were ordinarily present. The fact that the disease was sudden in its onset, and that there was increased joint mobility would serve to distinguish it from arthritis deformans.

Dr. J. E. Janvrin, of New York County, read a paper on "The Early Diagnosis of Tubal Pregnancy, and Primary Laparotomy in such Cases." He said that in addition to the usual early symptoms of pregnancy there would be a tipping of the uterus laterally, an elastic swelling could be detected at the site of the ovum, and an exquisite tenderness would be noted at this point.

Dr. Charles A. Leale, of New York County, in a paper on "Restoration of Function of the Lung and Pleura after Thoracentesis," said that in children the lung would often fully regain its function after having been compressed for months. It was important after thoracentesis to keep the patient from tubercular surroundings.

Dr. Austin Flint, of New York County, was elected President of the Association for the ensuing year.

Chicago Academy of Medicine.

[Reported exclusively for the Journal of the American Medical Association.]

The Academy met on the evening of Oct. 12, 1894, at the Saratoga Hotel. Dr. F. Henrotin presided.

The subject for general discussion was

EPILEPSY.

Dr. Sanger Brown opened the debate with remarks upon the

SEMEIOLOGICAL RELATIONS OF EPILEPSY.

Dr. Brown said: Mr. President, it occurs to me in considering this subject that very little can be said upon the pathologic anatomy of the disease. But what is wanting in that particular can be made up in the symptomatology. It is a broad subject, and in the time allotted me I can say comparatively little in regard to it. The most important points in the symptomatology of the disease refer to the prodromal symptoms, the aura, the minor attacks of epilepsy, and to the post-epileptic conditions.

The epileptic attack is so well known to you all that it does not demand at such a time as this very much discussion. In regard to the prodromata, they are usually divided into the remote, that is those extending over a few days, and the immediate, the usual warning or aura. For instance, in my clinic just before coming to this meeting, I had an excellent illustration of the remote premonitions. In my experience they are comparatively rare. This girl had had epilepsy for nine years, and her friends could tell for days in advance when she was going to have a series of attacks by the peculiar enlargement of the eyes. I do not recall seeing this mentioned anywhere before. The patient herself was not conscious of this enlargement of the eyes. She had the immediate aura also. In regard to the remote prodromata, I had under my care at the Bloomingdale Asylum a gentleman, a colonel in the war, who had received a gunshot wound of the mastoid process, causing facial paralysis and some general hemiplegia. At first he had Jacksonian epilepsy, and finally developed the idiopathic form of the disease. His attacks occurred once or twice in two or three months, and for three or four days prior to a seizure he would begin to tell us how well he felt and how clear his mind was. Things that had been previously obscure to him were now perfectly clear, and he would lay plans for the future, and then we knew he was going to have a seizure in the course of a few days. When the seizure came it was maniacal in character, and he was entirely oblivious to all of his surroundings and would remain so for several days. He would have several severe attacks of the disease, and all the time during the several days he would be violent and very hard to manage. Then he would go perhaps for several months without an attack. The usual treatment seemed to do him no good.

In regard to the aura of the severe attacks, the symptoms are usually classified as sensory, motor, and of the special senses. The motor phenomena can not be taken up in the short time at our disposal; but I desire to say this, that in considering the peculiar sensations that patients begin to feel in the arm and extending up through the body, gastric sensations, a sense of fear and tremor, I do not think we are warranted in regarding them as evidences of epilepsy unless they are attended by at least some degree of loss of consciousness. In persons whom we know to be afflicted with epilepsy, it is undoubtedly true that very often they have these strange sensations without any disturbance of consciousness, and then we know that they were a symptom of epilepsy; unless they occur in such persons, it would not be proper to so regard them, because many of us who have never had epilepsy have had every one of the aura. The minor attacks require that special attention be given to them in cases where patients are brought to us by their friends, and convulsions and unconsciousness are described.

In referring to the post-epileptic manifestations, I should say that a true paroxysm of hysteria is not uncommon, especially in young men and young women at the age of puberty, and it is a true hysterical attack. This is of the utmost importance, as there may be an attack of petit mal or grand mal, and the true epileptic nature of the attack is very apt to be overlooked, because the manifestations of an hysterical attack last so much longer and have such a peculiar nature that they are more likely to attract the attention of the relatives than a brief attack of petit mal or of grand mal.

In connection with the post-epileptic conditions that have been described, and in which I have had experience in several instances, there are cases of what is known as automatism; that is, the patient immediately after an attack will begin to undress himself and has no recollection of what occurred afterwards. He will pick up things and put them in his pocket, no matter where he may be, and by so doing get himself into trouble. A very interesting case of this kind occurred in the person of a physician in London, showing the extent and importance of these automatic manifestations. The physician during his office hours had an attack of petit mal. His office was full of patients, and he was attending one when the attack came on. He attended to all of his patients, made several calls, and then returned to his house when consciousness returned. He went over the

work he had done during this period of unconsciousness and found he had done it practically all right. He had diagnosed correctly one case of pneumonia in which he had been called, had instructed the nurse properly, and had written the proper prescription for its treatment while he was entirely unconscious. But here, too, I think there has been too much of a tendency on the part of physicians, because there are a few well authenticated cases of this kind, to conclude that where automatism occurs in this way it is conclusive proof of epilepsy. That certainly should not be the case. I knew of a young man in New York, 17 years of age, in good health and with no hereditary taint who went several blocks from home to the house of a friend to get up lessons in the evening, and about 9 o'clock he started to return. He remembered leaving the hall but did not go home, and three or four days thereafter when he regained consciousness he found himself in the upper part of New York where it was not thickly settled, sitting along a railroad track with his feet in the water. That was suggestive of epilepsy, but was not absolute proof of it. This circumstance occurred ten years ago, and the young man has been perfectly well ever since.

FORENSIC RELATIONS OF EPILEPSY.

DR. HAROLD N. MOYER—About the most uncertain chapter in the domain of forensic psychology is that which deals with epilepsy. With reference to this discussion I have consulted several of our standard works on medical jurisprudence, and have found many errors. I mention one in passing: All agree that the importance of the epileptic attacks depends upon their severity, that is, whether it be petit mal or grand mal. That doctrine is erroneous.

It is a difficult thing to get a starting point from which to discuss the question of the responsibility of the epileptic. But I will advance briefly one or two propositions that are I think well taken; first, that no epileptic shall be held to full accountability who has committed a crime of violence without rational motive. A second is that every physician called upon to investigate one of these cases in the presence of a crime, without adequate or rational motive, should look most earnestly for the evidences of epilepsy.

For the forensic physician, the diagnosis of the epileptic attack is often beset with difficulties. It is but rare that the examiner will have an opportunity of observing an attack himself; and even if he does, must be on his guard lest he be deceived by a shrewd malignerer.

Doubtless many of you are familiar with what in thieves' parlance is known as a "dummy chucker," a man who imitates perfectly the epileptic convulsion. We remember to have observed one such case at the Cook County Poorhouse, who was detected by the fact that the thumb was clinched *outside* the fingers. We have one infallible guide and that is the loss of light reaction in the pupil. At the onset of the attack the pupils are always invariably dilated, but the re action to light is always lost. This sign alone will enable us to detect a feigned attack.

In cases where we are not able to observe a convulsion, we must rely largely on the history of the case and what we can learn from those who have observed the patient. The essential starting point in this interrogation is the loss of consciousness; it is doubtful if this occurs in every case, but it is so frequent that it is always to be looked for, and if present establishes the diagnosis beyond all doubt. A diagnosis may sometimes be made by carefully interrogating the patient over long periods of time; this may develop the amnesic conditions so common in epilepsy.

I do not accept a classification that would place the psychoses of this disease in a separate class under the term "epileptic insanity." Nor do I believe that clinically we can demarcate between melancholia, mania, confusional insanity, circular insanity and other forms of mental disease associated with epilepsy and those which originate from other causes. When the epileptic becomes insane, the mental disorder may be considered apart from the epilepsy and its forensic relations are the same as those of any other psychosis.

We now come to the last division of our subject, the peculiar mental states which very often accompany, precede or sometimes follow the attacks, and which are often of considerable duration, and again are exceedingly transitory. To my mind this is one of the most interesting and one of the most difficult questions in forensic psychiatry. For hours preceding an attack there may be a condition of insanity, or there may be a condition of unconsciousness in which automatic acts are performed just as Dr. Brown has cited to you, and in which criminal acts may be done wholly without the consciousness of the person. The mental state succeeding the attack is frequently accompanied by marked hallucinations and delusions that often lead to very outrageous acts. The delusions are often of a suspicious character; the people around them are transformed into frightful shapes, and often assume in their distorted imaginations, a violent attitude toward them, and they strike out to defend themselves. Many of the violent acts of homicidal lunatics are to be attributed to this mental state succeeding an attack.

This, then, will conclude a very brief survey of the forensic relations of epilepsy. We will briefly recapitulate a few points we have made. The diagnosis of epilepsy itself is of the utmost importance because it is such a common disease, and one that may be so easily overlooked. In every crime of violence without adequate motive, search carefully for epileptic manifestations. When it is once established that a patient has epilepsy who has committed such a crime, I do not think any one, in the present state of our science, is justified in saying that he is fully responsible. In the psychoses which accompany, precede and succeed the attacks for a varying length of time, very great judgment and circumspection must be used in giving an opinion in a particular case. I know of no special rule to guide us.

ORAL RELATIONS OF EPILEPSY.

DR. EUGENE S. TALBOT—From my experience, there is no form of brain disease that presents so much stigmata of degeneracy as is found among epileptics. Through the kindness of Dr. Dewey, some two or three years ago, I had the pleasure of making a thorough examination of patients in the Kankakee Insane Asylum, and from the classification and facts obtained at the office of the institution, I was able to make a very complete examination of the patients there. The deformities that I noticed among the different forms of insane people are arrest of development and excessive development. These conditions are spoken of in books as hypertrophy and atrophy. These abnormalities of the osseous system are produced early in life, which would go to show that the cells of the brain which preside over the development of the structures of the body affect nutrition. I found the smallest number of deformities of any one class among the alcoholic insane; these individuals might have become insane probably later in life after the osseous system had developed. I found 44 per cent. of deformities in the jaws alone, and at that time I was not paying as much attention to deformities of the face, nose, ears, etc., as I have done later. Among the paranoiacs I found 87 per cent. of deformities. I mentioned this to give you an idea of the deformities I noticed among the epileptics. I found 72 per cent. among the males, and 80 per cent. among the females. It will be noticed that the average of deformities among the epileptics was nearly up to the highest number. It is singular, in examining patients in asylums, that as large percentages of deformities are not found among them as in private patients, people that are born in this country and come to our offices for treatment. I have had the opportunity of examining mouths of some eight or ten epileptics among my own patients, and invariably found these deformities very marked; either a V- or saddle-shaped arch, are the result of arrest of development of the jaws. Then, quite frequently hypertrophy of the tongue, of the lips, the salivary glands and alveolar processes are found. In the mouths of these individuals the saliva collected in the floor of the mouth and upon the surface of the tongue. While operating the saliva moved back and forth upon the lips, showing that there is an excessive development of the salivary glands. In all of the patients in my practice I found deformities of the nose, ears, and face. An arrest of development of the jaws was quite marked in almost every case, I should say 90 per cent., showing that this disease is manifested very early in the condition of the cells of the brain. Unfortunately, not being a specialist in nervous diseases, my examinations are almost entirely limited to the osseous structure and conditions of the mouth. You will invariably (in the patients that come to you) find either an arrest of development or excessive development of the tissues of the mouth and jaws.

(To be continued.)

Bulgarian Students in France.—According to the *Gazette de Gynécologie* of Oct. 15, 1894, the number of Bulgarian students in France has greatly increased since the action taken by the Bulgarian government, in refusing recognition to the diplomas of Swiss universities. It is estimated that from 350 to 400 Bulgarians will complete their studies under French auspices this year.

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SATURDAY, NOVEMBER 3, 1894.

THE STATUE OF DR. J. MARION SIMS IN BRYANT PARK.

For the first time in the history of the United States, a public statue has been erected to the memory of a member of the medical profession.

On Oct. 20, 1894, in one of the most beautiful parks in New York City, in a spot of ground selected and set apart for statues of literary and scientific men considered worthy of such honor, there was unveiled a statue in bronze of a man well known in scientific circles, as well in Europe as in America.

The inscription upon the pedestal tells in concise language almost the story of the man whose statue it supports, and why such distinguished honor has been conferred upon a physician.

On it is written:

"J. MARION SIMS, M.D., LL.D. Born in South Carolina, 1813. Died in New York City, 1883. Surgeon and Philanthropist, Founder of the Woman's Hospital in the State of New York. His brilliant achievements carried the fame of American surgery throughout the civilized world. In recognition of his services in the cause of science and mankind, he received the highest honors in the gift of his countrymen, and decorations from the Governments of France, Italy, Spain, Belgium and Portugal." And on the reverse,

"Presented to the City of New York, by his professional friends, loving patients and many admirers throughout the world."

JAMES MARION SIMS was born in Lancaster district, South Carolina, Jan. 25, 1813. He was the son of JOHN SIMS, a farmer, and MAHALA MACKAY; a descendant of people who took a prominent part in the struggle for independence during the Revolutionary War.

Early in childhood, his father selected this son as the one who gave most promise of achieving a career for himself, and being a poor man, not able to give a college education to each of his children, he gave all the benefit of a common school education in their native district, but sent the subject of this sketch to the South Carolina College, through the regular grades of which he passed, and graduated in 1833.

Selecting for himself a career in medicine, he attended the lectures at the Medical College in Charleston, and later on entered the Jefferson College of Philadelphia, from which he was graduated in 1835.

In 1836 he settled in Montgomery, Alabama, in the practice of his profession. There he founded a private hospital for the treatment of surgical diseases, taking a special interest in diseases of women. In 1845 he systematically began and by 1848 he at last succeeded in inventing a method for the cure of vesico-vaginal fistula by the use of metallic suture, the disease up to that time having been incurable.

By 1849 he had devised a number of instruments, ingeniously constructed, which soon became and still remain an indispensable part of the surgeon's armamentarium. In 1851, he published the result of his efforts in the *American Journal of Medical Sciences*, which attracted such general attention that he was encouraged to seek a wider field of labor. In 1853 he removed with his family to New York City, to establish himself in his profession, and soon after organized the Woman's Hospital Association, which resulted in the construction of the large institution situated at 49th Street and Park and Lexington Avenues, in New York City.

The State Legislature granted a charter to the hospital, the common council of the city gave it a block of ground and an appropriation for its construction.

In 1862 DR. SIMS visited Europe, performing his celebrated operations before large classes of physicians in the principal cities of the old country. So successful were the results that his fame spread rapidly throughout Europe, and with this his services were in such demand that he concluded to remain in Europe for a number of years, located for the greater part of his time in Paris, where he enjoyed a very lucrative practice.

As the result of his operations and demonstrations before the learned bodies of Europe, various Governments conferred upon him the decorations above named. He was made Chevalier of the Legion of Honor by the Emperor Napoleon, and such was the popularity achieved in the organization and command of the Anglo-American Ambulance Corps in the Franco-German War, that, after the cessation of hostilities, he was made a Commander of the Legion of Honor by the Republic of France.

In 1875, he was elected President of the AMERICAN MEDICAL ASSOCIATION, and presided at the World's

Centennial Exposition Meeting of the ASSOCIATION in Philadelphia in 1876,and was also President of the American Gynecological Association. In 1881, he made public his ideas in regard to the treatment of gunshot and other wounds of the peritoneal cavity, which, though not accepted with favor at that time, have since been universally adopted and the ideas evolved by him then may now be said to be the practice of the advanced surgeon of this day.

DR. SIMS married, Dec. 21, 1836, ELIZA THERESA, daughter of DR. BARTLETT JONES, of Lancaster, South Carolina, who survived him seven years. His death occurred on Nov. 13, 1883.

New York in thus placing in public view, the statue of one of the ablest medical men of our time is entitled to the grateful thanks of the medical profession of America. How different the feeling in New York in regard to this great man and his memory, from that dark time in which he founded the Woman's Hospital! That most pathetic autobiography ever printed ("The Story of My Life") tells of the heroic efforts of the almost friendless physician, who with mighty aspirations but feeble fainting frame founded that great charity. The shining metal might well bear upon its escutcheon in letters of gold the legend, "IN ATONEMENT," and those reading the golden letters would learn anew the great lesson of tolerance. The medical profession of the world is the better and nobler for having once had a SIMS, and it is well to thus honor his memory.

BRITISH NEWSPAPER DISCUSSION ON VACCINATION.

It is not needful to discuss statistics of smallpox mortality before members of the AMERICAN MEDICAL ASSOCIATION to establish the practical value of JENNER'S discovery; but as a matter of current news it may be well to refer to a series of interesting letters, spiced with a considerable dash of temper, that appeared in the columns of the *Times* (London) during the month of September, concerning which our article of September 22 was written. The writers were MR. ERNEST HART, Chairman of the National Health Society on the one side, and MR. J. T. BIGGS, member of the Leicester Sanitary Committee. MR. WILLIAM TEBB of the Devonshire Club, London, and others of lesser note on the other. The first mentioned lays himself open to attack by giving utterance to an overestimate of the immunity conferred by vaccination. The others triumphantly assail this weak point and carry the war into the enemy's country by an array of statistics which in the minds of many lay readers who do not see wherein lie the fallacies must raise doubts and questionings, if indeed they are not accepted as showing that smallpox is more prevalent and more fatal in the vaccinated than in the unvaccinated. Speaking of the epidemic of the last eighteen months in various districts of England, MR. HART says that there has not been a single death of a vaccinated child under 10 years of age nor of a re-vaccinated adult. MR. TEBB overlooks the limitation to the recent English epidemic and shows by German statistics of twenty years ago that such deaths have been recorded. He shows that in the city of Berlin in the year 1746 there were 186 deaths from smallpox in an unvaccinated population of 80,000, giving a rate of only 2.3 deaths per thousand living, while in 1871, with a vaccinated population of 823,569 the deaths were 5,085 or 6.2 per thousand, and he shows moreover that more than half of these later deaths occurred in children under 10 years of age. These statistics of vaccinated and unvaccinated Berlin are very striking; but MR. TEBB does not point out that nearly all the deaths in 1746 were of young children because the others of the population had already been rendered immune by previous smallpox. These deaths were merely the regular tax paid annually to the pest. Nor does he point out that 1871 was an epidemic year in which the city was called upon to pay for its carelessness in respect to vaccination, which was not made compulsory until 1874. Nor does he inform us that from 1874 to 1885 (the last published official figures) there were altogether in the whole period of eleven years only 177 deaths. MR. HART, however, was led enthusiastically to assert that children under 10 years of age, according to the official reports of the recent English epidemic, are wholly and entirely immune from smallpox and can not be infected. The replies of the anti-vaccinationists fairly bristle with figures to show, as they sarcastically phrase it, "the kind of immunity which vaccination affords;" but, indeed, they could have convicted their opponent from his own later utterances, for in the issue of September 22, under the heading of "Immunity from Death of Vaccinated Children under Ten Years," he tabulates eighty-four recent cases of smallpox in such children.

The only other application of statistics to anti-vaccination argument which we have space to notice is a bold and startling comparison of some figures from the records of the British Army with the smallpox death rate of the city of Leicester. This latter is stated to have been 89 per million during the late epidemic. "Perhaps nothing," says MR. BIGGS, "is more frequently appealed to in support of the efficacy of re-vaccination than our re-vaccinated army, yet at page 278, Royal Commission Report, No. 2, we find that '3,953 re-vaccinated soldiers in the British Army suffered from smallpox from 1860 to 1888, of whom 391 died of the disease.' This gives a smallpox death rate of nearly 99,000 per million among a strong, healthy and specially selected re-vaccinated adult population. Compare this appalling death rate of 99,000 per million of the 'efficiently vac-

cinated' and 're-vaccinated' or 'doubly protected' with the death rate of only 89 per million among our mixed and for the most part 'unprotected' population at Leicester, and we may repeat: 'Wherein is the necessity of the operation?" This is positively a superlative comparison!

A careful perusal of this series of letters leads to the conclusion that no good can be accomplished by cultivating a correspondence with men who are disingenuous enough to affect such *tours de force* in their statistical presentations, and particularly in the columns of a daily newspaper not all of whose readers are capable of putting a proper valuation on the data.

TYPHOID FEVER AMONG PLUMBERS.

It is a question not infrequently raised in boards of health, whether it is allowable or not to send plumbing inspectors to houses where typhoid fever exists. Also, if plumbing in such houses is defective shall orders to do the required repairs be enforced while the fever yet remains. It is the practice in some towns to leave the matters of inspection to those plumbers who have no dread of the work, and not insist that a plumber shall go, whether he will or no. There will ordinarily be some one or more inspectors at the service of the health officers, ready for this class of work. As to compelling the prosecution of repairs during the pendency of the malady, it may be assumed that the dangers to the workman can be reduced to a minimum, by the thorough and frequent disinfection of the evacuations of the patient, and of the drainage system by which those excreta are carried away.

When the water closet in the house drains into a cesspool, an arrangement common in many suburban places, where sewers do not exist, the cesspool should be drenched with disinfectants; when the case is recovered the cesspool should be cleaned to the bottom in the presence of an abundant use of chlorid of lime or other approved disinfectant. That plumbers may not with impunity engage in this kind of repairing work we have proof in a case that lately occurred at Montclair, New Jersey. In a recent report by the Health Board of that town, mention is made of a plumber being attacked by typhoid fever in consequence of having done repairs in one or more of the houses where the fever had occurred.

EX-JUDGE W. S. HOLMAN.

Every physician residing in the Fourth Indiana Congressional District should remember that W. S. Holman, as chairman of the Appropriations Committee of the House of Representatives, did all he could to defeat the appropriation for the Pan-American Medical Congress, and that he persistently votes against every measure which is for the advancement of medical science. If he were governed by purely patriotic motives no one could impugn them, but when we know that a worthless member of his family was foisted on the Geological Survey and there retained for a long time on the public pay roll, we can assume reasonably that his so-called "watch-dog-of-the-Treasury" act is one of hypocrisy, and for demagogic purposes only.

If the doctors in the Fourth Indiana District will exert themselves a little, this interesting person will be properly retired at the next election.

AN ARGUMENT FOR THE ANTI-VACCINATIONISTS.

The wordy war on the value of vaccination, carried on through the medium of letters to the editor of the *Times*, London, which gave occasion to our editorial remarks in the Journal of September 22, is continued hotly in October with many fresh participants. Among the letters is one which will bear reproduction:

"*Sir:*—A few words of common sense would not be amiss. I am 70 years of age. In my boyhood it was scarcely possible to walk a quarter of a mile in London without meeting one or more grown-up persons marked by smallpox. In my own small circle there were three persons so marked.

"At the present time I walk about for days and never see a marked face, although my eyesight is as keen as ever. It might be interesting to learn the experience of other Londoners on this subject, and to know how the anti-vaccinators account for the change that has taken place.

"Your obedient servant, OLD STAGER."

Our readers will greatly regret to see in the Necrology column an account of the death of William Goodell, M.D., of Philadelphia, a notice of which arrived as we were going to press. His wide acquaintance in the Association, his professional skill, and his literary ability leave a void which will not be easily filled.

CORRESPONDENCE.

Status of Eclectics, et al.

AUSTIN, TEXAS, Oct. 4, 1894.

To the Editor:—Yes, we are all proud of the *success* of the Journal! It has forged ahead, in spite of prejudice and local jealousies, and now is beyond the experimental stage of its life. See herewith a clipping from our daily paper, of ——— ——— Company, quoting. In various cities and towns of the United States there are both homeopathic, and eclectic physicians who would scorn to drag medicine in traffic-slime, as this company does. Now these said homeopathic and eclectic physicians thrust Dr. ———'s advertising "rot" under my nose, and say, tauntingly: "How do you get on, Mr. Regular?"

You, personally, are well and widely known as a large-hearted liberal man and representative physician of the common sense class. And I hope you will be brave enough (as well as discrete enough, to give us—the rank and file—some definite basis upon which to act, in reference to society affiliation with those homeopathic and eclectic physicians who demean themselves as honorable, well educated physicians and refined persons.

The people at large know full well that *very few* "regulars" refuse to meet with this class (if any class) of homeopathic and eclectic physicians, especially if a good fee is in sight or the patient be a person of consequence. There is not a single physician in this city who refuses to meet homeopathic or eclectic physicians, in professional consultation, under said favorable circumstances. Individually, I have never been a slave to any creed, or suppliant to any sect. The Golden Rule, is enough "code" for any well intending person; other sorts of persons only use codes as a cloak while perpetrating the most contemptible meanness—at least, such is my observation, from various quarters of the United States. I do not mean that all, or nearly all physicians, who advocate the strenuous upholding of the written Code, are dishonorable persons, nay, verily. But we, so-called "regulars," have, by years of misguided management, raised and endeavored to maintain an issue. Now it is high time we met such issue, if we would, as a profession, continue to command the respect and esteem of intelligent people at large. Yours very truly, Q. C. SMITH, M.D.

ANSWER:—As to meeting or affiliating with any physicians, only those are kept out who announce themselves as adhering to some dogma. We use any means for the cure of our patients that clinical experience or common sense leads us to believe would prove of value, whether it be homeopathic, eclectic, or what not. When a physician announces that he uses only a certain line of remedies ignoring others which are known to be of value, how can a thoroughly educated physician consult with him? When he ceases to use such a line of remedies, he ceases to be truly a homeopath, etc., and is a physician. We do not raise the issue. In many sections, there are persons who are good members of our societies, though they either did not receive a diploma or one from an irregular school, but having ceased to announce themselves as practitioners of a pathy, and as being guided by common sense and employing whatever means to relieve disease had been found of value, they had become practitioners of medicine without dogma.

The following fully explains the correct view of the ethics:

Resolved, That clause I, of Art. IV, in the Code, is not to be interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the Code that interferes with the exercise of the most perfect liberty of individual opinion and practice.

Resolved, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper, to assume a name indicating to the public a sectarian, or exclusive system of practice, or to belong to an association or party, antagonistic to the general medical profession.

Resolved, That there is no provision in the Code in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations can not be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is a pressing or immediate need of them. On the contrary, to meet the emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the spirit and the letter of the Code."

Announcements in the Press.

NEW ORLEANS, Oct. 13, 1894.

To the Editor:—Please inform me if there is anything in the Code of Ethics to prevent a practitioner: 1, from announcing in the *daily newspapers* that his practice is limited to the diseases of special organs; 2, ditto in the *medical papers;* 3, from announcing in sealed circular letters to the *medical profession* at large that his practice, etc.; 4, ditto to *laymen at large*, etc. Yours truly,

EDMOND SOUCHON, M.D.

ANSWER:—Art. I, Sec. 4: "Duties of physicians to each other and to the profession at large:" "It is derogatory to the dignity of the profession to resort to public advertisements," etc.

2. While in some parts of the country, physicians do publish cards in medical papers, it is not regarded as wanting in the true dignity of a physician, but as a question of taste.

3. Certainly, there can be no objection to a sealed circular to the profession, announcing that practice is limited, etc. But we find that when a physician is limiting work to a specialty, it soon becomes known to the profession of his town, and by his papers on that subject in the medical journals he soon attracts a *clientèle*.

4. A circular to laymen can not fail to produce in the minds of those who receive it, a doubt as to the ability of the one sending it.

A large acquaintance with the profession in all parts of the country causes us to believe that the dignified earnest practitioner can acquire a practice without resorting to any of these plans.

The Missouri State Board of Health.

ST. LOUIS, MO., Oct. 26, 1894.

To the Editor:—The Missouri State Board of Health at its meeting held in St. Louis on October 25, unanimously adopted the following resolution:

"No medical college guilty of issuing a catalogue or prospectus in which are contained material misrepresentations concerning its teaching facilities, course of study or false representations in the list of students matriculated, or in attendance, shall be in good standing with this Board."

Very respectfully,

F. J. LUTZ, M.D., President.

BOOK NOTICES.

Addresses, Papers and Discussions in the Section on Obstetrics and Diseases of Women, at the Forty-fifth Annual Meeting of the AMERICAN MEDICAL ASSOCIATION, held at San Francisco, Cal., June 5–8, 1894. Pp. 168. Chicago. 1894.

The volume opens with the Minutes of the Section meeting, and then the chairman's address, by Dr. Joseph Eastman, and concludes with the case of didelphic uterus by Dr. Werder, of Pittsburg. The latter article, by the way, is the first pamphlet entirely finished in the JOURNAL office on one of the new presses, and has therefore an interest beyond its intrinsic merits. All the papers in the volume have been heretofore printed in the JOURNAL, but those interested in the work of this Section will naturally be glad to have the collection in book form for permanent preservation.

The Retrospect of Medicine: A half-yearly Journal, containing a Retrospective View of every Discovery and Practical Improvement in the Medical Sciences. Edited by JAMES BRAITHWAITE, M.D. Volume CIX. January–June, 1894. London: Simpkin, Marshall, Hamilton, Kent & Co. 1894.

This is the bound volume of "Braithwaite," so well known in this country and in Great Britain that it needs no introduction at our hands. There was a time when a volume of this size was extremely useful, but the field of medicine is now so vast that it is not possible, in the small compass of such a book as this, to do more than make excerpts from a few medical journals. Considering its narrow and limited horizon, it serves very well those of its patrons who take the *Retrospect* simply because they always have taken it.

The Nurse's Dictionary of Medical Terms and Nursing Treatment. Compiled for the use of Nurses, and containing descriptions of the principal medical and nursing terms and abbreviations, instruments, drugs, diseases, accidents, treatments, physiologic names, operations, food appliances, etc., etc., encountered in the ward or sickroom. By HONNOR MORTEN. Second Edition. Philadelphia: W. B. Saunders. London: The Scientific Press. Chicago: A. C. McClurg & Co. Price $1.50.

The title page tells the whole story, and makes the reviewer's task a light one. It is an excellent dictionary for nurses and one, we think, very well calculated to be of ser-

vice to them. Now that nursing has become a branch of medicine, one of the most important divisions of therapeutics, it is necessary that special dictionaries should be compiled for the nurse's use, and this volume, which will doubtless grow with each succeeding edition, seems to fill the requirements.

Materia Medica, Pharmacy, Pharmacology and Therapeutics. By W. Hale White, M.D., F.R.C.P., and Reynold W. Wilcox, M.D. Second American edition; thoroughly revised. Philadelphia: P. Blakiston, Son & Company. 1894. Chicago: E. H. Colgrove & Company. Price $3.

This is an excellent manual, well arranged, and carefully compiled. It has been revised to conform to the American Pharmacopœia with the single exception of dosage, which still remains as in the original British edition. As the British Medical Association at its last meeting appointed a committee on the adoption of the metric system, it is probable that they will join the remainder of the world in due time. The index is very complete and adds much to the convenience and usefulness of the book.

Prescribing and Treatment in the Diseases of Infants and Children. By Phillip E. Muskett. Third edition, pp. 334. Edinburgh and London: Ewing J. Pentland. 1894.

This little book, which is narrow and slender, may be carried in the pocket and is an epitome of the subject. It is divided into three parts, the first dealing with dosage and therapeutics. The second with the treatment of disease in infants and children, and the third part is given to recipes. It has an interesting summary of the list of drugs and dietary substances which have been found useful in the treatment of diseases of children in Sydney, Australia. Each chapter is alphabetically arranged. Some of the titles, however seem to be rather colloquial than scientific, such as "Inward Fits" page 182; "Rickets in Australia," page 240. The book will be found extremely useful. It is well printed and convenient.

Practical Manual of Diseases of Women and Uterine Therapeutics. For Students and Practitioners. By T. McNaughton-Jones, M.D. Sixth Edition. London: Baillière, Tindall & Cox. 1894. Four hundred and ninety-seven illustrations and two plates. Pp. 766.

This is one of the best manuals of gynecology in the English language; concise, clear and complete. This edition is largely re-written, re-arranged and newly illustrated. There is a large increase in matter and in the illustrations, and many additions have been made in the pathologic and surgical portions. The chapters on diseases of the mammary gland have been omitted, and new chapters on uterine reflexes, sutures and ligatures, surgical fibromata, affections of the Fallopian tubes, tubal pregnancy and ovarian affections, have been added. The author is a man of positive convictions, and he does not hesitate to express his views frankly. His chapter on massage is a refreshing one in these days of namby-pamby, hesitating literature. To McNaughton-Jones a spade *is* a spade, and not an uncertain "agricultural implement."

Public Health Papers and Reports. Volume XIX. Presented at the twenty-first annual meeting of the American Public Health Association, held in Chicago Oct. 9-14, 1893, with abstract of the records and proceedings. Concord, N. H. 1894.

Many of the papers published in this volume appeared in this Journal at the time of the meeting, and a full report of the proceedings will be found in the Journal of Oct. 21, 1893. The publication of the transactions is of value to those who wish to preserve them in permanent form, and no volumes have been better prepared, or printed in better general style than those of the American Public Health Association. In some respects, it will be a pity if the committee shall abolish the plan of printing the annual transactions, and with the additional matter that will properly come with the quarterly journal of public health, there will come also a feeling of regret at the absence of the scholarly and good-looking volumes from the library shelves. There would seem to be no particular cause for this action, when the medical journals of the country now so fully and accurately publish to the world the doings of this great and public-spirited Association.

The volume under consideration contains necrologic reports of the late Dr. Edward H. Janes, of Massachusetts; Dr. Jones, of Maine; Dr. T. F. Wood, of Wilmington, N. C.; Dr. V. T. Atkinson, of Chicago, and Dr. Joseph W. Redden, of Delaware.

Transactions of the American Surgical Association. Volume XII. Edited by De Forest Willard, M.D. Philadelphia: Printed for the Association by William J. Dornan. 1894.

This volume of transactions contains the papers read before the Association at the meeting held May 29-31, and June 1, 1894, together with brief obituary notices of Professor Billroth, Drs. B. A. Watson, W. W. Dawson, T. J. Dunott, and James McCann. The frontispiece of the volume is a picture of a gavel which, the volume informs us, is one made from a portion of the office chair of the late Prof. Samuel D. Gross, presented by the retiring President, Dr. Mears, to the Association for the use of its future President.

The papers have been previously published, some of them in this Journal. There is a paper on "Methods of Teaching Surgery," by a gentleman who has neither taught or practiced surgery for the last twenty-nine years, and can not therefore be considered as an expert on the subject The one paper in the volume that stands out as a landmark is the paper of Dr. Fenger, of Chicago, on "Surgery of the Ureter."

Syllabus of Lectures on Human Embryology: An Introduction to the Study of Obstetrics and Gynecology. For Medical Students and Practitioners. With a Glossary of Embryological Terms. By Walter Porter Manton, M.D., Professor of Clinical Gynecology and Lecturer on Obstetrics in the Detroit College of Medicine; Fellow of the Royal Microscopical Society, of the British Zoological Society, American Microscopical Society, etc., etc. Illustrated with Seventy Outline Drawings and Photo-Engravings. 12mo, cloth, 126 pages, interleaved for adding notes and other illustrations. Price, $1.25 net. Philadelphia and Chicago. The F. A. Davis Co.

This volume is intended for the class room and laboratory more than the library, and as such will be found a trustworthy guide. Section IX, on "practical work" is very useful. The study of embryology has been too much neglected in medical schools in the past, and this book has been prepared in recognition of the evident need of medical students for a compact book on the subject. While it only purports to give an outline of the subject, it answers very well the demands of those who have not time or opportunity to master the larger works on embryology such as Minot's. It is vastly better that the student should master the contents of this little book than that he should have no acquaintance with the subject. No one can master the fundamental truths of pathology without an acquaintance more or less profound with embryology.

First Aid to the Injured and Management of the Sick. An Ambulance Hand-book and Elementary Manual of Nursing for Volunteer Bearers and Others. By E. J. Lawless, M.D. Illustrated with forty-nine engravings. Philadelphia: J. B. Lippincott Company. 1894. Price, $1.25.

The author in this book has arranged the subject of first aid to instruction to suit the requirements of those attending regimental classes, and the book will be found useful, not only to members of volunteer and civil ambulance classes, but to various ambulance associations. Part I is devoted to first aid to the injured, and contains, beside, the introductory twelve lessons. Following this are questions and answers to the foregoing. Part II is devoted to management of the sick, and contains seven chapters. The appendix of Part I contains a chapter of miscellany relating to fresh air and ventilation, germicides, the administration of medicine, removal of boots in injuries to the ankle or foot, bed sores, field kitchens, directions for pitching tents, ambulance wagons, hand carts, forms of reports, table of poisons and the index. There are forty-seven illustrations. The book will be found of great value to those for whom it is intended, and it would appear as if the great sympathy of the English for the Chinese would necessitate the issuance of a special edition, to be distributed through military channels from the central office at Pekin, as from all accounts there

is great lack of organization. The truth is, there have been almost as many books written on aids to the injured as the average man sees of the injured during a lifetime. Many of them are excellent, and it would be difficult to improve upon the one under consideration, but there are simply too many of them—at least in English speaking countries.

Text-Book of Nervous Diseases, being a Compendium for the Use of Students and Practitioners of Medicine. By CHAS. L. DANA, A.M., M.D. Third edition, with two hundred and ten illustrations. New York: William Wood & Company. 1894.

The author has endeavored in this book to place modern neurology in a small and accessible space. He says: "I do not expect or intend to make a light and restful piece of literature; the science of nervous diseases can not be honestly presented in any such guise; but by following the instructions of the preface, the student can master the essentials of neurology without encountering any hard waste of words, and the practitioner who wishes to study special subjects can, as I fondly believe, find them presented concisely and with a fair degree of completeness." This manual is one of the best of its class, and the student or practitioner who masters this book may well indeed warn his antagonist to beware of the man of one book, for he will surely vanquish him if they meet in debate in a medical society, or in the pages of the current medical journal. Dr. Dana, like others of his family, is a master in the use of the English language, and the family trait is shown to perfection in this book. Those who have the pleasure of a personal acquaintance with the author know him to be one of the most painstaking of mankind and one of the most studious. What he says of his own knowledge may therefore be accepted as an unquestioned fact, and what he states upon information has been subjected to the test of a judicial mind.

Lectures on the Diagnosis and Treatment of Diseases of the Chest, Throat, and Nasal Cavities; including physical diagnosis and diseases of the lungs, heart, and aorta; laryngology and diseases of the pharynx, larynx, nose, thyroid gland, and esophagus. By E. FLETCHER INGALS, A.M., M.D. Third edition revised and enlarged. Octavo, 640 pages, 240 illustrations, including colored plate of stained tubercle bacilli. Price $5. New York: Wm. Wood & Co. 1894.

This well-known and standard treatise has required no great alteration in the text of this edition from that of the second one, which was issued in 1892, and the author, as he says, has evidently succeeded "in his efforts not only to aid laryngologists in their daily work, but also to place those subjects clearly before students and a large class of general practitioners who, of necessity, must be prepared to meet any emergency. Fifteen chapters are devoted to diseases of the chest; fourteen chapters to diseases of the throat; eight to diseases of the nose, and one chapter to diseases of the thyroid gland and esophagus. In the appendix will be found formulæ for various prescriptions, including gargles, troches, inhalations, pigments, insufflations, nasal douches, and the like. In the next edition, we trust the author will conform to the new Pharmacopœia by using the decimal system of dosage. Few books have been published which in the same number of pages contain more references to pertinent contemporaneous literature, and at the same time show such care and originality. The work is a model of its class.

Annual of the Universal Medical Sciences: A Yearly Report of the Progress of the General Sanitary Sciences Throughout the World. Edited by CHARLES E. SAJOUS, M.D., and seventy associated editors, assisted by over two hundred corresponding editors, collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps. Five volumes. Philadelphia, New York and Chicago: The F. A. Davis Company.

It is probable that at no period has the diamond of medical literature received a handsomer setting than has been given it in this now well-established Annual. Every phase of medical discovery with its many-sided characters are here fully set forth and duly credited to their authors, real or supposititious. No man can possibly keep abreast of the entire range of medical science. Few men are able to keep in touch with any one branch of medical science. Nothing but the steady and continuous work of a corps of men, such as are gathered together under the able direction of Dr. Sajous, could accomplish from year to year a work of such scope and minuteness as the *Annual of the Universal Medical Sciences*, and there can be no question but that the conceded importance in American medical literature in the past few years has been largely due to the influence of two publications, namely, the *Index Medicus* and the *Annual of the Universal Medical Sciences*, works which serve the same purpose to the general reader and writer as the "Index" to the frequenter of the public library, but the *Annual* is something more than an index. It is an editorial review of all the topics of the year. It is as much superior to the annuals, year books and retrospects hitherto published, as a modern treatise on bacteriology is to the work of Redi on the Generation of Insects.

Home Treatment for Catarrhs and Colds. A handy guide for the prevention, care and treatment of catarrhal troubles, cold in the head, sore throat, hay-fever, hoarseness, ear affections, etc., adapted for use in a household and for vocalists, clergymen, lawyers, actors, lecturers, etc. By LEONARD A. DESSAR, M.D. New York: Home Series Publishing Company. London: Ballière, Tindall & Cox. 1894.

The author says in his preface that an apology seems necessary for having written the work; that it was written "with a view of supplying the general reader with a trustworthy guide of instruction for the proper care, prevention and treatment of catarrhal troubles of the throat, nose and ears, and their complications." He neglects, either in the preface or elsewhere, to inform us what the complications of the nose and throat may be, but he says: "There are thousands of persons throughout this country who use their voice in their vocation, such as vocalists, clergymen, lawyers, actors, orators, and yet who are unfamiliar with the best means of keeping the vocal organs in a condition of health or caring for them when diseased." The author fears the purpose of his book may be misunderstood, for he further says: "We would urge most strongly that the purpose of this little book is not to supplant the physician, but to acquaint the reader with the principles of promoting the health of these organs."

There are thirty-eight chapters which seem to mention most of the general topics included in the subjects under consideration, from bleeding at the nose, to frost bites. The author begins: "The nose serves a double purpose. It is the organ of the sense of smell, assists in breathing, and in the production of speech." This would seem to be a triple purpose by the ordinary rules of mathematics. We doubt if this book will be of much service, as it is extremely problematical if it will ever reach the class for whom it was intended. It is too technical to be read by them, and is too elementary to be useful to the profession.

Landmarks in Gynecology. By BYRON ROBINSON, B.S., M.D., Chicago. Paper, volumes I and II. Detroit: George S. Davis, Publisher. 1894.

The landmarks in gynecology which the author considers of chief importance are "anatomy," "menstruation," "labor," "abortion," "gonorrhea," "tumors." Exactly why they should be called landmarks, it is a little difficult to understand, but inasmuch as the matter is correct it is of little consequence what title shall be given.

The author is well known as a frequent contributor to this and other journals, an indefatigable worker, and untiring investigator. The present book is an abstract of some of his lectures delivered at the Post-Graduate Medical School.

In conclusion, the author, himself an experienced operator, offers the following practical suggestions: 1, remember it is criminal to learn to do a laparotomy on a patient; 2, do not attempt to do a laparotomy in a private house with no nurses; 3, before undertaking laparotomy, study under a master and a system, if possible, so that you can see the pathology in the abdomen and the methods of removing it. Ask to be allowed to tie a knot once in a while. Never lose the chance of assisting or witnessing a laparotomy; 4, learn the after-treatment; half the battle is with the intestines; 5, study carefully the abdominal and pelvic viscera on the cadaver and as many cadavers as possible. Never lose the chance of doing a *post-mortem* or attending one. Study the viscera of animals; 6, be sure to make systematic experiments on the abdominal viscera of dogs. Always do the autopsy on the dogs yourself. Note what dam-

age to the peritoneum your manipulations have done. Observe what peritonitis really is; 7, be clean without chemicals. Learn to use very few instruments. Beginners should always invite a laparotomist, one who will suggest and criticise in a friendly spirit, to be present; 8, be careful of promises.

A Treatise on the Medical Jurisprudence of Insanity. By EDWARD C. MANN, M.D. Albany, N. Y.: Matthew Bender. 1893. 8 octavo, leather, pp. 420.

This handsome volume on this branch of the insanity question contains not only the views and opinions of one thoroughly expert in matters of which he treats, but gives such authoritative and definite statements concerning the subject as to make it of great value to all who wish to keep abreast of the modern decisions and views. The book is divided into twenty-one chapters, of which several are devoted to the psychologic aspects of various cases. Thus, Chapter XIV is given to the psychologic aspects of the case of Edward Newton Rowell; Chapter XV the same in the case of Lucille Yesult Dudley; Chapter XVII, Chas. Guiteau; Chapter XXI, the case of Prendergast.

In regard to Guiteau the author expresses his unqualified conviction that he was insane. In the matter of Prendergast, his conclusion is not clear, but in this connection he states: "Society must punish crime, not for revenge, but to protect society from evil deeds, to put penal restraint on the criminal and to deter others by the example and him by the memory of his sufferings from a repetition of his acts. The punishment of an insane person or idiot is no benefit to him, as he can not learn by it, while the example of its infliction, so far as serving a warning to others, is an outrage of social feeling and brings discredit on the administration of justice."

He quotes briefly on page 112 the opinions of Judge Edmunds and of Recorder Hackett as to what constitutes insanity. This is what Judge Edmunds says: "A sane man is one whose senses bear truthful evidence; whose reason can draw proper conclusions from the evidence which is received; whose will can guide the thought thus obtained; whose moral sense can tell the right and wrong of any act growing out of that thought; and whose acts can, at his own pleasure, be in conformity with the action of all those qualities. All these things unite to make sanity. The absence of them is insanity." This from Recorder Hackett: "The state of sanity is one in which a man knows the act he has committed is unlawful and morally wrong, and has reason sufficient to apply such knowledge and be controlled by it."

This book will be found of value not only to experts in insanity and the legal profession, but to all physicians wishing to keep pace with the progress of legal medicine.

A Manual of Modern Surgery, General and Operative. By JOHN CHALMERS DA COSTA, M.D. With 188 illustrations and 13 plates in colors. Cloth, pp. 809. Philadelphia: W. B. Saunders. 1894.

The author says in the preface: "The aim of this manual is to present in clear terms and in concise form the fundamental principles of the chief operations and the accepted methods of modern surgery. The work seeks to stand between the complete but cumbrous text-book and the incomplete but concentrated compend." From the earliest times the *Ἄριστον μέτρον*, the "golden mean," has been sought by the *literati*, but alas, like the bag of gold at the end of the rainbow, it has thus far eluded search. We hope that this new aspirant for honors in surgical literature may be more successful than any of its predecessors; but it is a difficult task when the excellence of many of the text-books on surgery which are now in the field is considered, and the charge of "cumbrous" can scarcely be applied to some of them. In Moullin, for example, it is said that the last edition was revised with the deliberate purpose, among others, of eliminating all superfluities of words and phrases.

The author in the preface apologizes for his opening chapter being devoted to bacteriology, an apology which is no longer necessary in view of the fact that every teacher of the principles of surgery is of opinion that the principles of bacteriology find an appropriate place in works of this character.

The book is rather loosely written as regards English. We open it at random, and we find on page 94 this: "The exploring needle must be used; it will do no harm to an aneurism if aseptic." Page 111: "Within forty-eight hours as a rule the gangrene has mapped out its area," the meaning of which is evidently that the gangrene has become limited or circumscribed. On page 328 we find: "The treatment of these conditions is by their well-known rules." On page 512: "The commonest seat of a felon is the last digit of a finger because the superficial lymphatics run directly *inward*." (The italics are ours.) Page 513: "Opening a felon is exquisitely painful." We presume to the patient. "In effusions into the knee joint, the fluid is behind the patella, and the bone floats up." On page 514 we are told that "when the big toe is pushed inward by ill-fitting boots, a bunion forms," and we are told on the same page that "a bunion is a bursa due to pressure; it is most commonly found about the metatarso-phalangeal articulation of the great toe, but occasionally over the joint of another toe." "In treating a bunion the patient must wear toes that are not pointed." Therefore, we are led to infer that if the patient does not treat a bunion, it is immaterial what kind of shoes he wears. Again, we find: "Distention of the entire abdomen and of the flanks, linked with tenesmus," etc.

Some of the teachings are unsound. For example, on page 619, it is said: "Puncture of the intestine with an aseptic hypodermatic needle, introduced obliquely, will relieve gaseous distention." Let any one attempt to relieve gaseous distention in the *post-mortem* room by a single puncture or a half dozen punctures if need be, and he will very speedily ascertain that even in the non-elastic dead intestine the opening soon closes after the needle, and the air can not be easily withdrawn. Moreover, the operation on the living subject is itself dangerous, and a caution should have been given, because if the opening were large enough to allow the passage of air through the intestinal wall, it would be large enough to allow the escape of fecal matter.

We have with regret pointed out these faulty methods of expression in order that they may be corrected in the next edition, as the book has many excellent features and doubtless will reach another edition. We notice, too, that the author has used the old British dosage in his prescriptions.

Army (British) Medical Department Report for the Year 1892.

The British Army Medical Reports have had an interest for medical and sanitary men since the days when E. A. Parkes and his pupil, De Chaumont, edited their appendices which were usually stored with the latest views and experiences on sanitary subjects. The present, the thirty-fourth volume, is constructed on the old and familiar lines,—a statistical report and an appendix. From the former we learn that the strength of the white troops during the year was in round numbers 200,000 men, one-half of whom were at home, the other half abroad. Of the latter 68,000 were in India, nearly 8,000 in Malta, 5,000 in Gibraltar, 3,000 in Egypt, 3,000 also in South Africa, detachments of from 500 to 1,500 in the other colonies and settlements, and a mean strength of about 3,000 at sea in transports. The rate of admission on sick report of the 200,000 men was 10.35 per thousand of strength, the death rate 9.46, the rate of discharge for invalidism 13.26, the non-effective rate or number constantly sick 58.08, and the average duration of each case of sickness 20.6 days. These figures differ but little from the average annual rates of the ten years 1882–91.

The admission, death and non-effective rates of the home stations were much lower than those given above: Admission, 7.61; death, 4.38; non-effective, 42.75. In Canada and Bermuda the records show a gratifying freedom from sickness. Halifax is the only station in Canada now occupied by Imperial troops. In Gibraltar, Malta and Cyprus the rates were much similar to those of the home stations, at other places they were higher: India had the worst record, an admission rate of 15.15, giving 83.88 constantly sick with 17.59 deaths and 12.40 discharges, besides 24.41 sent home as invalids out of every thousand men present with the flag.

The West Indies had 71 constantly sick; Egypt 67; the Straits Settlements 64.55 and China 60.

Enteric fever at the home stations occasioned only 132 cases of sickness or 1.3 per thousand of strength. In the United States Army during the same year we had 3.95, and this was a light record, as the average annual rate of the previous ten years was 5.17. There were 1,650 men of the home force constantly sick with venereal diseases, or 16.46 cases in every thousand men. The rate of admission for these diseases was 201.2; the United States Army rate for the same year was 72.46. Malarial disease, rheumatism, alcoholism, injuries and suicide were less frequent in the British Army than among our troops. We had as many suicides among our 26,000 men as they had in a strength nearly four times as large. Of 68,761 recruits inspected 38.3 per cent. were rejected as compared with 63.8 per cent. in the United States recruiting offices. It must not be supposed from these figures that candidates for enlistment in Britain are finer specimens of physical development than those of this country. The explanation lies in the fact that we have a relatively greater number of candidates to select from and our recruiting officers can therefore decline many men with slight defects that would not prevent their enlistment under other conditions. Nearly 79 per cent. of the accepted British recruits were boys under 21 years of age. Omitting boys under 17 years of age, of whom there were 1,421, the average age of the accepted recruit was only 19.3 years.

There was in Malta, during the year, a decided increase of enteric and Mediterranean fevers. A heavy autumnal rainfall was injurious owing to its having washed impurities into the main drinking water supply; and to this fact an unusual amount of sickness in November and December is said to have been due. During the outbreak all milk was boiled and the water boiled and filtered. The result of this latter expedient is said to have been excellent. Fire-places in barracks are urged as a necessity from December to March, when the dampness and cheerless appearance of the present unheated rooms exercise a depressing influence on the men. In the island of Mauritius the chief general causes militating against the health of the troops are the malarial nature of the climate, the general ignorance and neglect of the simplest rules of sanitation among the civil community of all grades, the impure water supply at Port Louis, the total absence of sewerage and the defective system of hand removal of excreta. At Port Louis the sanitary condition is said to be as bad as it possibly can be. In Ceylon the dry earth system is in use at all stations. Of the 86.76 men constantly sick per thousand of strength in the Bengal command, 25.58 were disabled by venereal diseases, 16.17 by malarial diseases and 4.15 by enteric fever. Of the last there occurred several notable local outbreaks, as at Dagshai, among the young men, fresh from home, of the Argyle and Sutherland Highlanders, where there were 98 cases and 12 deaths. Only such cases as presented unmistakable symptoms of enteric fever were returned under that heading. Of 96 occurring at the same time and place, and diagnosed as simple continued fever, some were prolonged and may have really been enteric fever cases.

The conclusions reached by the medical officer in charge were that the disease was brought by the regiment to Dagshai and spread among the young soldiers and that exposure to the sun, wettings, chills, etc., were exciting causes giving rise to fever and thus predisposing the men to enteric fever when the disease was present. Men in the early stage when suffering from diarrhea before admission to hospital used the latrine nearest to them at the time and thus probably spread the disease from one building to another. Many cases of sore throat and erysipelas occurring at the same time seemed to point to some local insanitary cause believed to be of a miasmatic character, as the site of the post is saturated with sewage.

The medical officer at Merut reports that the cause of enteric fever is as obscure as ever. He is inclined to think that a fever of a prolonged nature, having as its pathognomonic sign ulceration of the small intestines, can be caused without a specific excitant; in fact that youth, indiscretion, indigestible food, undue exposure to heat and fatigue, are factors enough in themselves to produce a fever, the nature of which is such that over 25 per cent. of those attacked die. He considers that if the five causes above mentioned were eliminated, with them would go nearly all the cases of the disease we call enteric fever. The medical officers at Lucknow and Quetta are inclined to the fecal dust theory of propagation. The latter says that the atmosphere at his station is very dry, and desiccating dust storms from the west are of frequent occurrence. The filth pits and dumping grounds are to windward of the cantonments and particles of dried refuse are blown across the lines and have every opportunity of obtaining entrance into the food and throats of the inhabitants and becoming a probable source of disease. At Benares the infection in certain of the cases is said to have come from the native quarters outside of the cantonments, as some men admitted for gonorrhea showed symptoms of enteric fever a few days afterwards. Speaking of the Dagshai outbreak the principal medical officer of the district remarks that the question of the microbe being present in excreta is generally received as certain, and as by burying this the subsoil is contaminated, the necessity of destroying by fire all contents of soldiers' latrines is proved. Experiments were carried out for six months in the camp of the Highland regiments at Umballa, and one incinerator was found sufficient to dispose of the excreta of 1,500 men. He is of opinion that the value of the incinerator can not be over-estimated and strongly recommends that this method of disposal be at once sanctioned, certainly for hill stations and in time for the plains.

At Agra there occurred 391 cases of severe fever, each of which rarely lasted over a week. Patients recovered quickly from its effects. There was no eruption nor any specific symptom, and it could not be classed under any other head than simple continued fever. It began and ended very much like an epidemic and lasted from July to October.

From cholera a total of 134 admissions with 95 deaths was recorded. The difficulty of determining sometimes whence comes the infection is illustrated in a report from Ferozepore. The disease was prevailing in the surrounding villages when:

"On the afternoon of April 21 a man of the Royal Sussex Regiment was admitted into the detention ward of the station hospital, suffering from diarrhea and vomiting. The following morning he appeared so much better that he was moved into one of the ordinary wards, where during the day his attack developed into cholera and proved fatal. On his way to this ward he had been placed (in a dhooly) for a few minutes in another ward while a bed was being prepared for him. Two hours subsequently a patient in this other ward was attacked, as were also five other inmates, and two more were seized in the ward in which the first man had been finally placed. All these cases occurred on the 22d. Next day two more patients in the hospital were attacked, and a third on the 24th. On the 25th a patient in a tent in the hospital compound was taken ill, and on the 26th there were three cases, first a nursing orderly, then a patient in a tent, and a second nursing orderly. The last case of this outbreak occurred on the 28th in a patient in a tent. The medical officer records his opinion that as only two hours elapsed between the placing, for a few minutes, of the first case in a ward, and the commencement of the outbreak in that ward, direct infection could not be ascribed as the cause of the patients in hospital being attacked. The second outbreak occurred on June 19, on which day three men of the Royal Artillery in the Fort were attacked in their barrack. They were treated in the detention room in the Fort, the only available place, which is an end room of the building occupied by married soldiers and their families. The next day a woman living in the adjoining quarter—under the roof there is communication between the rooms—was attacked, and on the same day a case occurred in the tents into which the men of the Royal Artillery had been moved the previous afternoon. On the 21st two more of these men were seized, and on the 22d a patient in the station hospital. On the 26th the last cases of this outbreak took place, viz., an officer living in a private bungalow, the wife of a soldier living in the Ordinance lines, and a man of the Sussex Regiment in a tent near the Fort."

In Bombay, Deesa and Aden one-third of the sickness was due to malarial fevers. The troops at Alexandria and Cairo suffered severely from enteric fever—109 cases with 32 deaths. To the unsanitary condition of the native city and especially of those quarters usually frequented by the men, is attributed the origin of the disease at both of these places. The quality of the water at Alexandria is so well recognized that all the drinking water used by the troops is boiled and filtered before use. Some of the men were moved from their barracks into the field under canvas. Following this there was at first a considerable abatement in the epidemic but it did not last long. Every possible sanitary precaution was taken and the greatest care used in the isolation, disinfection and treatment of the cases as they occurred. Many of the cases were of a virulent type terminating in early perforation of the bowel.

In the Appendix, Brigade Surgeon Lieut.-Colonel J. Lane Notter reviews the chief points of hygiene that have attracted attention during the year, discussing legislation, literature, work of societies, special points of hygiene and work in the hygienic laboratory at Netley. Under the second heading, favorable notices are given of Leffmann and Beam's "Analysis of Milk and Milk Products," and of Billings' "Ventilation and Heat." The special points noticed are the filtration of water as presented by Koch in his paper on "Cholera and Water Filtration," and the disposal of sewage by the oxidation effected during electrolysis. In the laboratory at Netley unsuccessful efforts were made to separate organisms pathogenic to man from soil taken from the site of the Aldershot camp, and some experiments were

made to determine the value of the new disinfectant, izal. This is followed by a report on the proceedings of the seventh session of the French Congress of Surgery, April 1893, by Brigade Surgeon W. F. Stevenson. A medical report on the mission of Sir C. Evan-Smith to Fez in 1892, by Surgeon-Captain W. G. McPherson, gives an interesting account of the topography of the country between Tangier, Fez and Rabat with sanitary notes on Fez and its surroundings, and remarks on the population and meteorology of the interior of northern Morocco, and on the diseases and medical customs prevalent among its inhabitants. There are also some minor papers; one on the fevers of Alexandria, another on enteric fever in India, a third on myopia and a fourth on gunshot fracture of the lower jaw. The appendix closes with meteorological data from various stations.

NECROLOGY.

WILLIAM GOODELL, M.D., the eminent gynecologist, who had been in failing health for the last two years, died at his residence in Philadelphia, on Saturday morning, October 27, aged 65 years. Dr. Goodell was the son of the Rev. Wm. Goodell, D.D., of Holden, Mass., and was born on the island of Malta, while his parents were journeying to Turkey, where his father was engaged in missionary work.

In 1849 he entered Williams College, Massachusetts. Graduating three years later, he came to Philadelphia and continued his studies at the Jefferson Medical College, and received his diploma in 1854. The same year Dr. Goodell rejoined his father in Constantinople, and there entered upon the practice of his profession. In 1857 he married, at Smyrna, Asia Minor, Caroline, daughter of the late Judge Thomas S. Bell, of West Chester, Pa., who survives him. In 1861 he returned to America on account of the unsettled condition of political affairs in Turkey, and, locating in West Chester, there commenced practicing medicine in this country.

In 1865, on his appointment as Physician-in-Charge of the Preston Retreat, at Twentieth and Hamilton Streets, he came to reside permanently in Philadelphia, and continued to hold this appointment until his health began to fail.

Soon after coming to Philadelphia he restricted his practice to obstetrics and diseases of women, on the subject of which he was a prolific contributor to this and other medical journals, and was also the author of "Lessons in Gynecology."

In 1870 he was appointed Lecturer on Obstetrics and Diseases of Women at the University of Pennsylvania, and in 1874 Clinical Professor of the University in the Diseases of Women and Children. He was also Honorary Professor of Gynecology of the University, a member of the AMERICAN MEDICAL ASSOCIATION, and the Gynecological Society; also of the State and county medical associations. He was a Fellow of the College of Physicians, and a member for many years of the American Philosophical and American Pathological Societies, and a correspondent of the Boston Gynecological Society, of the London Obstetrical Society and of the Imperial Medical Society of Constantinople. His death is a great loss to the AMERICAN MEDICAL ASSOCIATION.

DUDLEY SHARPE REYNOLDS, JR., M.D., son of Dr. Dudley S. Reynolds, of Louisville; born at Louisville, Feb. 20, 1873, died from the accidental discharge of a pistol, at Collinsville, Ill., Oct. 22, 1894. He was an unusually promising young man, of brilliant intellectual endowments, and more than the average of educational accomplishments for one of his age. His literary education was obtained in the public schools of Louisville, and in Professor Gooch's Preparatory Institute. He was a member of the class of 1890 at the Louisville High School, after which he entered upon the study of medicine, graduating with creditable distinction in the Hospital College of Medicine, June 21, 1893. He had been traveling in Europe during the summer, and on his return had determined to practice his profession at Collinsville, Ill., where he was engaged to marry the daughter of Mr. Oscar B. Wilson, a prominent citizen of that place. His sudden and tragic death shocked the people of Collinsville, and a wide circle of friends and acquaintances. His remains were conveyed to the home of his father at Third and Chestnut Streets, Louisville, Ky., and laid in their last resting place at 3 o'clock P.M., on October 25.

WILLIAM W. REESE, M.D., of Brooklyn, L. I., died October 20, aged 82 years. He had been suffering for two years or more from interstitial nephritis, upon which pneumonia supervened about one week before death. He was an ex-Treasurer and ex-President of the Kings County Medical Society. In the Physicians' Mutual Aid Association he was for many years an active office bearer. He was a descendant of the Pennsylvania family of Friends, bearing the name, Reese, and was a worthy representative of the religious brotherhood whose motto has for generations been "Peace and Good Deeds."

V. H. GUE, M.D., of New Lexington, Ohio, October 19.——W. H. Edwards, M.D., of Warrior Run, Pa., October 19, aged 25 years.——Solomon W. Davison, M.D., of Rochester, N. Y., October 21, aged 72 years.——O. B. Adams, M.D., formerly of Elgin, Ill., October 14, aged 64 years.

ASSOCIATION NEWS.

Treasurer's Notice.—Members of the ASSOCIATION knowing themselves to be in arrears will please send the amount of their annual subscription to the Treasurer, HENRY P. NEWMAN, M.D., Venetian Building, Chicago, without delay.

The great expense on account of the establishment of the new JOURNAL office, makes it more than ever necessary that our members should be prompt in their response to this notice.

SOCIETY NEWS.

Mississippi Valley Medical Association.—The Secretary of this Association announces the following preliminary program for the twentieth annual meeting in Hot Springs, Ark., Nov. 20, 21, 22 and 23, 1894:

Cases of Traumatic Cataract in Children Treated by Extraction, by J. M. Ball, St. Louis; Toxics, by W. F. Barclay, Pittsburg; The Philosophy of Stimulants, by A. D. Barr, Calamine, Ark.; Squint, with Special Reference to an Operation, by Chas. A. Beard, St. Louis; Conservative Surgery, and What it Means at the Present Time, by A. C. Bernays, St. Louis; The Deeper Inflammations of the Skin, by A. W. Brayton, Indianapolis; Intestinal Indigestion, by A. P. Buchman, Ft. Wayne, Ind.; The Medical Expert Witness, by Robt. M. Campbell, Ashland, Ohio; Some Observations on "Sore Throat" Due to Concretions in the Tonsils, by L. C. Cline, Indianapolis; The Differential Diagnosis of Coma, by W. J. Conklin, Dayton, Ohio; Constipation, by G. J. Cook, Indianapolis; Syphilis, and its Relation to Other Affections, especially those of the Skin, by W. T. Corlett, Cleveland; Surgical Treatment of Uterine Fibroids; Disposal of the Pedicle, by A. H. Cordier, Kansas City; Stab Wound of Pericardium; Resection of Rib; Suture of Pericardium; Recovery, by H. C. Dalton, St. Louis; Surgical Treatment of Trachoma, by D. A. Dean, Pittsburg; Possibilities of Medicine, by J. O. DeCourcy, St. Libory, Ill.; Some New Instruments, and Means of Physical Diagnosis, by Chas. A. Denison, Denver; Quinin in Chorea, by F. R. Fry, St. Louis; Report of a Case of Trephining for Cerebral Clot, with Loss of Vision; Recovery; by J. B. Hamilton, Chicago; Spot Specialism, by C. H. Hughes, St. Louis; The Management and Treatment of Endometritis, and the Prevention of Ovarian and Tubal Diseases, by W. H. Humiston, Cleveland; Functional Stenosis; Its Relation to Malformations, Dislocations and Flexions; and Conditions Characterized by Amenorrhea, Dysmenorrhea and Hyperemias; with a Scientific Rationale in Therapeutics, by G. F. Hulbert, St. Louis; The Neatest Method of Circumcising, by B. Lewis, St. Louis; Colles' Fracture, by J. E. Link, Terre Haute, Ind.; Double Nasal Atresia, Due to Smallpox, by H. W. Loeb, St. Louis; Tubercular Meningitis, by I. N. Love, St. Louis; Physicians' Prescriptions, by S. Loving, Columbus, Ohio; Traumatic Lesions of Cranium and Brain; Report of Clinical Cases, by G. N. Love, Randall, Kan.; Observation on Residual Urine and Remarks on Perineal Section, by G. Frank Lydston, Chicago; Modern Surgical Technique, by H. O. Marcy, Boston; Tumors of the Neck, by Donald Maclean, Detroit; Advantages and Disadvantages of Kraske's Operation, by J. M. Mathews, Louisville; Resection of the Knee for Separation of Lower Epiphysis of the Femur; Case of Two Years' Standing, in a Patient 13 Years of Age, by A. H. Meisenbach, St. Louis: Accidents and Injuries from Electric Currents of High Potential, by H. N. Moyer, Chicago; The Mental Symptoms of Cerebral Syphilis; A Clinical Study, by F. P. Norbury, Jacksonville, Ill.; Enlarged Tonsils and Their Treatment, by John North, Toledo, Ohio; My Experience

with Gold as a Therapeutic, by A. Owen, Evansville, Ind.; The Surgical Treatment of Injuries of the Head, by Chas. P. Parker, Cleveland; Headache, by Curren Pope, Louisville; Address on Surgery, by Joseph Ransohoff, Cincinnati; Syphilis, by A. Ravogli, Cincinnati; Reform in the Management of the Insane and the Neurotic Viewed from a Gynecologic Standpoint, by Chas. A. L. Reed, Cincinnati; Retinitis Syphilitica, by D. S. Reynolds, Louisville; The Spine and the Elevator, by B. M. Ricketts, Cincinnati; Infantile Paralysis, by John Ridlon, Chicago; President's Address, by N. C. Scott, Cleveland; Climate and Tuberculosis, by S. R. Solly, Colorado Springs, Colo.; Toxicity in the Production of Nervous Diseases, by A. E. Sterne, Indianapolis; Constipation from a Surgical Standpoint, by Leon Straus, St. Louis; Laparotomy for Pelvic Diseases no Longer Necessary, by R. Stansbury Sutton, Pittsburg; Topical Treatment of the Air Passages; With Exhibition of a New Atomizing Vaporizer, by H. M. Thomas, Chicago; The Importance of Urinalysis in Diagnosis, by A. B. Walker, Canton, Ohio; Reflex Irritation as a Cause of Disease, by E. Walker, Evansville, Ind.; Address on Medicine, by J. T. Whittaker, Cincinnati; Tumor Albus of the Knee Joint, by W. E. Wirt, Cleveland; Influence of Inflammation of the Seminal Vesicles in Maintaining Gleet, W. N. Wishard, Indianapolis; Modern Antiseptic and Aseptic Midwifery in Private Practice, by E. G. Zinke, Cincinnati.

The railroad rates for this meeting will be one fare for the round trip. A special train will leave St. Louis for Hot Springs, Sunday night, November 18, via Iron Mountain Route. A stop of several hours will be made at Little Rock, Ark., on Monday, November 19.

It is requested that all who contemplate making this trip, arrange their plans to join the official train at St. Louis, Sunday night, November 18.

FREDERICK C. WOODBURN, Secretary.

399 College Avenue, Indianapolis.

PUBLIC HEALTH.

To Health Officers.—Boards of Health desiring to communicate information to the Public Health Department of the JOURNAL will please address the EDITOR of the JOURNAL.

The Epidemic Contagious Diseases.—Toward the close of October there was a decline in the incidence of typhoid fever throughout the country, a marked increase in the prevalence of diphtheria and only a slight increase, if any, of smallpox—in fact, except in Milwaukee, this disease has been stationary or slightly declining. In that city, Dr. Wingate, Secretary of the Wisconsin State Board of Health, reports, October 29, the situation "not improved," 71 new cases, with 15 deaths, having occurred during the week, and 151 cases remaining under treatment at that date—71 cases in hospital and 80 at their homes. The opposition to removing patients to the isolation hospital continues active and the warfare on Health Commissioner Kempster is still being carried on. The State Board of Health is prohibited from interfering until this attack ceases, and it is feared now that the disease is so widely and firmly lodged that "it will only cease to exist after it finds no more material to feed on." Elsewhere in the State there has been an outbreak among the Indians on the Oneida Reservation, and there are four cases at Two Rivers; all outbreaks, outside of Milwaukee, are taken charge of, more or less directly, by the State Board of Health, which sees that proper preventive measures are enforced. In Chicago the disease has been practically stationary during the last three months, the number of cases under treatment daily ranging between fifty and eighty; at the close of the month there were seventy-one cases in hospital, whither all patients are at once removed. Dr. Baker, Secretary of the Michigan State Board of Health, reports an aggregate of twenty-nine outbreaks, in twenty-three localities, with 160 cases and thirty deaths, since Jan. 1, 1894. At date of report, October 24, there were thirty-six cases remaining in the State—at Detroit, and in Jackson and Washtenaw Counties. Dr. Baker adds: "In the twenty-nine outbreaks there have been on the average 5.5 cases and one death; in eighteen of the twenty-five outbreaks now over, the infection was restricted to the one house in which it first occurred." Another case developed on the 28th ult. among the employes of the Interior Department at Washington, making a total of seven cases with two deaths thus far reported; the latest victim was a colored messenger, being the third messenger attacked. The other smallpox localities of the month were Walkerton, Ind., Angola, near Buffalo, N. Y., Newark, N. J., and Port Jervis, N. Y., the latter the most serious. Dr. Benj. Lee, Secretary of the Pennsylvania State Board of Health, reports that, except three cases of smallpox in Philadelphia on the 22d ult., the State was free from the disease. On the whole, the smallpox situation is far from alarming at this date, although there are still occasional importations—two cases being reported October 28, on the steamship *Lucania*, at the port of New York.

Diphtheria has been reported in an epidemic form at localities in Massachusetts, New York, New Jersey, Pennsylvania, Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota and Nebraska; and typhoid fever at localities in New York, Pennsylvania, Ohio, Michigan, Wisconsin and Iowa. The area of incidence and the severity of the disease seems to be increasing for diphtheria and decreasing for typhoid.

The Prevention of Diphtheria.—The following is self explanatory, and is furnished for publication by the Health Department, 301 Mott Street, New York.

NEW YORK, Sept. 28, 1894.

CHAS. F. ROBERTS, M.D., Sanitary Superintendent.

Sir:—We desire to direct the attention of the Board of Health to the necessity for the adoption of some more adequate means to prevent the extension of contagious disease in tenement houses and apartment houses, and particularly for the enforcement of isolation of persons sick with these diseases. The methods which have been long employed in the Health Department, *i. e.*, frequent visitation and instruction by Department Inspectors, have been found to be only partially effective. It has been the custom for years, in cases of contagious disease, for the Inspectors of the Department to visit the families of the sick persons, inform them as to measures of disinfection and methods of isolation, and at the same time to notify other families in the house, of the existence of a case of contagious disease in a given apartment. This method of giving publicity to the case and of warning other occupants of the house is ineffective in the accomplishment of the desired end; *i. e.*, the complete isolation of the patient and the prevention of further infection. Notifying all the inmates of a large tenement is a very difficult matter, and, if notified, experience has shown that they soon forget the existence of illness in the house. Repeated inquiries have demonstrated the fact that frequently many of the inmates of the house where there is a case of contagious disease do not know of the existence of any sickness.

Further than this, this method fails entirely to protect strangers or visitors who may go to the house or apartment. Ladies in search of servants have been repeatedly found in houses or in apartments where cases of contagious disease were present, and servants who have been living with families where there are cases of contagious disease, on obtaining situations frequently go to their employer's house carrying infection with them; or, when relieved from duty for an afternoon or evening, visit where there are cases of contagious disease and not infrequently carry infection back to the houses in which they are employed. Very commonly, washing or various kinds of sewing is secretly done by other members of the family in apartments where such cases are ill, and the garments thus infected on the premises are later returned to the owners. In small shops, business is sometimes carried on, and in one of several instances recently, a number of cases of diphtheria were directly traced to an infected candy store.

Notifying inmates of the house is ineffectual further, because it has been found that, as a rule, intercourse of families in tenement houses is not with others in the same house but with families which live in other houses, and the latter are entirely unprotected by the methods at present followed.

It has seemed to us after careful consideration of this subject that the desired object would be best obtained by the placarding of apartments in tenement houses where cases of contagious disease exist, and we therefore have the honor to recommend that hereafter the Chief Inspector of Contagious Diseases be authorized, in his discretion, to placard apartments in tenement houses where there are cases of contagious disease. The following considerations may render still more apparent the necessity for this action:

1. Under the present conditions it is impossible to prevent strangers and visitors from entering apartments where there are cases of contagious disease, and they or their clothing thus frequently become infected, and either they contract the disease themselves or they transmit it to

others. These strangers or visitors are usually not aware of the existence of disease in the house or apartment, and unwittingly expose themselves and act as media for the dissemination of the disease. If apartments were placarded, this means of dissemination would be prevented.

2. In diphtheria, as has been repeatedly and abundantly shown by the investigations of this Department, patients are often apparently well long before they are free from the infectious agents, and in spite of repeated warning from Department Inspectors these patients, especially when children, mingle with other children and thus transmit the disease to them. This is one of the most common and important means for the dissemination of diphtheria, and it is of no less importance in scarlet fever and measles, as in the latter diseases desquamation frequently continues many days after the patient has apparently quite recovered.

3. There are at present no means by which other inmates in tenement houses can know when convalescent cases of contagious disease have ceased to be dangerous. They can only be governed by appearances, which, as we have seen, are deceptive. If apartments where cases of contagious disease existed were placarded, isolation would be enforced by the other occupants of the house until the Department Inspectors allowed the placards to be removed.

4. The moral influence of such placards, both upon the inmates of the apartments, the inmates of the house and strangers or visitors to the house would be of as great service in enforcing isolation and preventing extension of disease as the visits and instruction of our inspectors. It has been found impossible, even where daily visits were made by medical inspectors, assisted by the Sanitary Police, to enforce the isolation of children convalescing from diphtheria and scarlet fever after the serious symptoms have disappeared. It is undesirable at such times, unless absolutely required, to remove such patients to the hospital and yet in the eruptive fevers this is the period of the disease when there is greatest danger of transmission to others.

During the last year we have had a serious epidemic of diphtheria to deal with. The number of cases reported weekly during the last months, however, has steadily decreased. The schools have just now opened, and it seems to us that the most strenuous efforts should be made to prevent a new outbreak of the disease or its re-introduction to the schools. This measure would be of undoubted service in accomplishing the desired object.

We would recommend, therefore, that placards should be nailed to the outside doors of the apartments in which cases of contagious disease are present, when in the judgment of the Chief Inspector of Contagious Diseases this course seems to be desirable, and that the placards should bear the following inscription, differing as to the name of disease in question and as to color. The color for diphtheria should be white; for scarlet fever, red; for measles, blue.

DIPHTHERIA.

"All persons not occupants of this apartment are notified of the presence of diphtheria in it, and are warned to avoid entering it until this notice is removed. The persons sick with diphtheria must not leave as long as this notice remains here.

"The removal or defacement of this notice is forbidden.

"By order of the Board of Health.

"—— ——, President.

"—— ——, Secretary."

For some months in certain classes of tuberculosis the system of placarding apartments has been authorized and employed by the Health Department, and has proven very satisfactory in the attainment of the object desired. The only objection apparently to be urged against this measure is that the inmates of the apartment may object to the publicity thus entailed. This, however, is exactly the object which the measure is justly and properly designed to subserve, and is, in our opinion, the strongest argument in favor of its adoption. Respectfully submitted,

(Signed.) HERMANN M. BIGGS,
Pathologist and Director of the Bacteriological Laboratory.
A. H. DOTY,
Chief Inspector of Contagious Diseases.

The above report was approved by the Board of Health of the Health Department of the City of New York at a meeting held on Sept. 28, 1894.

(Signed.) EMMONS CLARK,
Secretary.

Brooklyn Board of Health Regulations Against Diphtheria.—An unusual prevalence, and mortality by diphtheria have vexed the sanitary officers of Brooklyn. The following circular of information has been prepared for general distribution by the sanitary corps, especially among physicians and afflicted families. It contains reference to the free proffer of bacterial diagnosis, and to the new plant for disinfection:

Diphtheria is a contagious and infectious disease and may be conveyed directly by coughing, spitting, sneezing or kissing, or indirectly by the use of infected articles such as clothing, towels, napkins, handkerchiefs or dishes used by the patient. The germ causing the disease is very resistant and may exist in infected articles for months. When a suspicious case of sore throat occurs in a family, the patient should be isolated, and the family physician or this Department should be notified, when a culture can be taken free of cost, to determine the nature of the case. If it is found to be true diphtheria the isolation should be continued, preferably on the top floor, if possible in a well ventilated and sunny room from which all unnecessary furniture and hangings have been removed. As far as possible the patient should be nursed by one person, and no one but the physician and nurse should be admitted to the sick room.

All clothing that can be washed, which has come in contact with the patient, should be placed by the nurse, or under the direction of the physician, in a solution of corrosive sublimate, two drachms and a teaspoonful of salt to a gallon of warm water in a wooden vessel for one hour. The clothing should then be removed and boiled for one hour in water. It should be remembered that corrosive sublimate is a powerful poison and should be handled with care. Soft rags should be used instead of handkerchiefs for receiving the discharges from the nose and throat and immediately burned after using. Non-metallic vessels used to receive the discharges from the patient should contain some of the above mentioned solution. Children from the infected house should not be allowed to attend schools of any kind, or other gatherings, until the patient has thoroughly recovered and the premises have been disinfected.

In order to determine the time when the patient is free from contagion, secondary cultures from the throat are recommended, as a basis for the final disinfection and raising the quarantine. The usual quarantine can often be shortened by this means. Proper disinfection can best be done by those trained to the work and thoroughly acquainted with the most improved methods. The Department is now in a position to perform such disinfection free of cost. In case of death the body should be completely wrapped in a sheet wet with corrosive sublimate solution.

MISCELLANY.

Dr. Alonzo Garcelon.—A recent letter from Dr. Garcelon gives a pleasant reminder of his restoration to health, and his many friends who were alarmed at his condition on the ASSOCIATION train and at San Francisco will take pleasure in congratulating our venerable ASSOCIATION Fellow, on his recovery.

Medical Congress of Mexico.—The second biennial Medical Congress of Mexico will be held November 5–8, at St. Louis Potosi. Dr. Eduardo Liceaga, President; Dr. Luis Ruiz, Secretary, both of the city of Mexico; Dr. Jesus E. Monjaras, Chairman Local Committee of Arrangements, St. Louis Potosi, Mexico.

The Business Law Weekly.—J. L. Rosenberger, Esq., who for several years furnished the reports of decisions of the Courts for this JOURNAL likes the business of journalism so well that he has established a weekly for the use of business men, which as its name indicates, will give them each week the summary of the decisions bearing upon business affairs. The long experience of Mr. Rosenberger in this particular line, and his journalistic training make it reasonably certain that the *Business Law Weekly* will become an authoritative and successful publication.

Air-Testing in Mines.—An acoustic apparatus, called the "formerophone," has recently been proposed for determining the proportions of gas contamination of subterranean air. The testing is done by organ pipes, one of which is

sounded in the mine air, the other being inclosed in a box containing atmospheric air. The sounds are produced by means of bellows, and can be compared by those having a suitable amount of training in sound reading. It has been noted that the sounds emitted by pipes are affected by the air with which they are fed, so that two pipes having the same normal pitch may be used simultaneously in different media and the results be compared. The standard of comparison is an organ pipe inclosed in an air-tight box containing pure air. The other pipe is fed with the air of the mine or chamber to be tested. The sound thus produced varies from the pure tone of the standard in proportion to the quality and quantity of the gas contained in the air thus fed to the pipe.

Chinese Account of the Origin of the Plague.—Dr. Yersin forwards to *Le Progrès Médical* the following explanation which, he says, is current in Shanghai: The Dowager Empress always has eighteen lamps burning, representing the eighteen provinces of the Chinese Empire. Some time ago one of the lamps burned very poorly, although it received exactly the same treatment as its neighbors. The chief astrologer was consulted and, after carefully examining the case, he announced that this lamp represented the province of Canton and that the province was about to be smitten by a pestilence which would carry off eight-tenths of the population—this was decreed by the God of Sickness. The Empress, much affected by this information, asked if the terrible fate menacing the people of Canton could not be averted. The astrologer answered that the god might be touched by prayers and offerings. These being attended to, the Empress asked what result had been obtained. The chief astrologer then carefully examined the situation anew and declared that the god would be satisfied with a compromise—that he would take four-tenths in human beings and an equal number in rats. This is why rats have suffered equally with the people from the plague in Canton and Hong Kong.

Facetiæ.—The following are the views of several journalists upon an important medical topic:

A GRIM VIEW OF IT.—The death of an ossified man in Tennessee is reported. He died hard.—*Chicago Tribune.* This is as bad as the man who swallowed a thermometer and died by degrees; it suggests also the case of the consumptive undertaker who died of a coffin.—*Medical Record.* These remind us of a man who choked while eating an apple, and died of appleplexy.—*National Medical Review.* It was in a St. Louis hotel that a Pike County farmer blew out the gas, and died from gastritis.—*Myer Brothers' Druggist.* Not any worse than the man struck by an engine; verdict died from locomotor attacksia.—*Montreal Pharm. Journal.* Still worse the case of that pie-eat-ing dyspeptic of Tiflis, for he died of piemia, superinduced by typhlitis.—*Gaillard's Med. Journal.* The other day a negro in Southern Georgia ate six watermelons. He died of meloncholia.—*Atlanta Med. and Surg. Journal.* Very good; but have you ever heard of the circus man who was accidentally sat down upon, during a performance, by the largest pachyderm in the menagerie. He died of *elephantiasis.*—*American Practitioner and News.*

This reminds us of the man who "took the cake." He still lives; a victim to the *cacoethes capiendi.*

Inspection of Bakeries.—A somewhat sensational report has been published in the New York *Press* regarding the unwholesome underground places where bread is made in that city and adjacent cities. Some of the bake-shops are kept tidy and in good repair, says the *Press*, but the rule is the reverse. The remarkable fact is brought into view that the inspection and licensing of these important branches of food preparation have in few cities received any attention, and that few boards of health have any explicit jurisdiction over bake-shops. Now that the attention of sanitarians has been pointedly called to this subject, it is more than probable that special powers and special legislation will be sought. It is worthy of mention that London—the senior in sanitation of all our American communities—has only recently taken up this subject, and better laws are being demanded. Dr. Orr, of London, has expressed the opinion that the outcry against the bake-houses of English cities has been overwrought, for he considers that from the very nature of the business these houses must always be to a certain extent unhealthful. All conditions of unfitness, above the necessary minimum, can be met under the general powers of the Public Health Act and the by-laws governing the County Council (for London) and cognate bodies for the country at large, without the increase of power by new legislation. The ordinary situation of bakeries, in cellars, can not be regarded as a fortunate one, and it may in the future be found necessary to bring those indispensable works, as well as ice-creameries and the like, up into closer relation with fresh air and sunlight. It is true that the brunt of the daily operations falls in the night, and sunlight is not an essential to the labor and its product, but is highly desirable for the well being of the laborer.

The Horace Wells Anniversary Celebration.—The following circular has been issued: Members are doubtless aware of the action of the American Dental Association at its recent meeting held at Old Point Comfort, Va., with reference to holding a national celebration of the fiftieth anniversary of the discovery of the anesthetic properties of nitrous oxid, by Dr. Horace Wells. The Committee by vote of the American Dental Association, was instructed to secure two papers to be read at the celebration. One upon the "History of Anesthesia," by Prof. Thomas Fillebrown, of Boston; and one on the "Benefits of Anesthesia to Mankind," by Prof. James E. Garretson, of Philadelphia. The Committee was further instructed to arrange for a banquet to follow the meeting, at which distinguished speakers shall make appropriate addresses. A full report of the celebration, including the papers and addresses to be printed and issued, as a permanent souvenir of the occasion. Arrangements have been completed to the extent of securing favorable responses from the essayists named, whose papers are now in course of preparation. The banquet arrangements are also largely completed. To cover the expenses attending the celebration, the fee for admission to the banquet has been placed at $6. It is necessary that the Committee shall have ample notice of the number who will be in attendance, in order that places may be provided for all who may desire to attend.

Subscriptions will be invited later for the souvenir volume, at a price sufficient to cover the cost of publication.

The celebration will be held in Philadelphia, in Association Hall, Fifteenth and Chestnut Streets, on Tuesday, Dec. 11, 1894, at 2 P.M., and the banquet at the Union League at 6:30, same evening. You are cordially invited to participate in this event, which should enlist the enthusiastic support of every member of our profession. To that end you are requested to send your check and notify the Chairman of the Anesthesia Committee, at the earliest date possible, in order that an official invitation may be sent to you.

It will be proposed at the meeting that subscriptions be invited for a permanent memorial, to take such shape as the meeting shall decide. J. D. THOMAS, Chairman.

912 Walnut Street, Philadelphia.

Aluminum for Military Uniforms and Equipments.—The weight carried by the German infantry soldier, including emergency rations and 150 cartridges, amounts to 73 pounds, or a little more than half the weight of the average soldier, 143 pounds. The field kit of the Russian infantryman weighs 65 pounds, of the French 63, of the Austrian 63½ and of the Italian 57 pounds. Medical authorities are said by military writers to have proved that a man can not, for any length of time, carry more than one-third of his own weight without impairing his powers of action. Professor Fraentzel, of the Berlin University, in examining a number of men who had fought in the Franco-Prussian war, found many affected with heart disease due to the severe strain of forced marching with the full kit. Influenced evidently by these considerations, the German Emperor directed inquiry to be made to ascertain how the weight of the field kit could be reduced. The experiments were made during the autumn maneuvers of the present year, and as a result it is said that the weight to be carried by the German soldier will hereafter be about 57 pounds. A good deal of this lessened weight is due to the substitution of aluminum for brass or other heavy metals. The aluminum canteen, cup and individual cooking vessel have, according to the notes of our Military Information Bureau, been in use in the German Army since 1893. Aluminum has been adopted for the buttons of the shelter tent and for the sockets of its poles, as also for the boxes to contain the field ration.

A patented alloy of the metal, known as Victoria aluminum, whose component parts, the manufacturer claims, can not be determined by analysis, is said to have a much greater tensile strength than the pure metal and to have a specific gravity of 2.8 to 3.4, according to its hardness, as compared with 2.7, the specific gravity of aluminum. Horse-shoes of this alloy are said to have been found satisfactory, but have not as yet been definitely adopted. Stirrups identical in appearance with the large steel hunting stirrups, stood the

test for strength, but the criticism against their adoption was that their lightness made it difficult to recover them when the foot slipped out. Curb bits failed to meet the service requirements on account of the side bars bending; but snaffle bits appear to be unobjectionable. Could the proper tensile strength be obtained in bits of this metal they would undoubtedly supersede those of harsher metals, as the former is comparatively soft to the touch, not affected by cold in the same degree and easier to keep clean. The results of the trials of uniform buttons of aluminum have not yet been made known. These buttons are three times lighter than the old metallic ones. While the gain in lightness on the individual soldier will be small, the reduction in weight would be quite an appreciable saving in war transportation, etc. Spoons and forks of this material have not only the advantage in weight, but also from the fact that no deleterious compound is formed, in comparison with forks, etc., of iron, tinned iron or german silver. The new alloy, it is said, contains no lead and does not rust or produce verdigris.

Louisville Notes.

HOSPITALS AND INFIRMARIES.—It is the purpose of your correspondent in the next few letters to describe the various hospitals and infirmaries of the city, in order that a reference to them in the future may be understood. We are about as well supplied with institutions for the care of the sick and injured as any city with even more inhabitants than ours. Among them may be mentioned first:

THE CITY HOSPITAL.—This building was first erected in the year 1822 and, as the needs arose, additions were made by the erection of wings on each end of the central building in 1866. This building has been continuously used ever since, only sufficient repairs put upon it in the past few years to hold it together, until in the year 1891 one wing of it was condemned. At this time the question of tearing it down and building a new one upon the present site was considered, but the authorities came to the unwise decision to alter the old one which was done at a cost to the city of more than $100,000, while the plans for the new one submitted, to be built upon the pavilion plan with courts inside was to cost $215,000. However, the renovated building is so superior to the old one that the profession is pleased and much good work is being done. The hospital is under the control of the four medical colleges during nine months of the year, which schools recommend the attending physicians and surgeons to the Board of Public Safety from their Faculties, and the staff for the rest of the time is named by the Board from the non-school men of the city.

The following is the report of the hospital for the month ending September 30:

Patients admitted remaining in hospital	117
Births	8
Admitted	142
Discharged	142
Died	13
Average cost of each patient	$ .59 per diem.
Cost per month of the hospital	$2,800.
Capacity of hospital	350 beds.

Nativity of patients: United States, 110; England, 2; Canada, 1; Germany, 13; Ireland, 10; Sweden, 2; Belgium, 1; Switzerland, 1; Wales, 1; unknown, 1.

The officers of the hospital consist of a superintendent; a physician; four resident physicians appointed from the four medical colleges; a registrar, and twenty nurses, including the members of the training school for nurses. The term of service of the resident staff is one year, appointed after a competitive examination at the various colleges. The Hospital is centrally located and has large grounds surrounding it which are under the supervision of the Board of Park Commissioners. The Board of Public Safety has recently contracted with a local firm to supply the city with an ambulance of the latest improved plans. This is to be run in connection with the hospital authorities and not by the Police Department as heretofore. The one now in use is cumbersome, heavy, uncomfortable, and in every way unsuited for the work. This much needed addition to the hospital equipments is the result of a long and united effort on the part of the Commercial Club, a local organization which has done much for the improvement of the city. The ambulance will be in charge of an interne of the hospital, who will accompany it wherever it is called.

THE MARINE HOSPITAL.—This hospital is pleasantly situated in the western portion of the city near the river bank, surrounded by about five acres of ground. It is in charge of Dr. C. T. Goodwin. The hospital is a three-story structure with a capacity of sixty-five or seventy beds. The nearest Marine Hospitals are situated at Cairo, Evansville, Cincinnati and Pittsburg. At present there are only about thirteen inmates. This perhaps is due to the unusually low water in the river, and in consequence the fewer number of crafts stopping at this port. Last year the number of patients did not go above 200, and the total number this year will be even smaller than last. The hospital has been thoroughly renovated by the Resident Surgeon; steam heat throughout, new operating room, the whole building newly painted, and new stables erected.

THE HEALTH OFFICER OF THE CITY has just issued his report for the past year, showing the mortality in Louisville. With a population placed at 200,000, the rate of mortality was 15.5 per cent. as against 16 per cent. for last year. Notwithstanding the increase in population and the annexation of two of the suburbs, the mortality has decreased 126 during the year. The largest number of deaths was 406 from consumption, from pneumonia 253, from typhoid fever 145; a total number of deaths from all causes 3,140. This is an unusually satisfactory report, but for obvious reasons does not give a satisfactory idea of the health of the city, for in this report is given only the deaths from various causes, no mention being made of the various contagious diseases which have not resulted fatally. This is due to faulty ordinances and an effort is now being made to have this remedied as reported in my last letter. Were reports made of all contagious diseases, a fair estimate of the health of the city could be made. Just at present an alarming prevalence of diphtheria is causing considerable consternation among the residents of several neighborhoods, but no cognizance is taken of it by the health authorities because there is no requirement by law by which they are notified. It is very much to be hoped that the Council will look favorably upon the ordinance submitted for their consideration and make it obligatory upon all practitioners to report their contagious diseases, and give to the Health Department sufficient appropriation to carry on a vigorous warfare against the spread of diphtheria and other diseases.

Washington Notes.

MEDICAL SOCIETY OF THE DISTRICT.—At the meeting of the Society this week, Dr. John S. Billings, before a very full attendance, explained the system of filtration and water supply of Hamburg and the sewer disposal of Paris. A full report and paper on the subject has previously been reported officially by Dr. Billings. The subject was ably discussed by Drs. W. W. Johnston, Surgeon-General Sternberg, U. S. A., and Jos. T. Johnson. Dr. D. O. Leach presented a specimen of perforated appendix from a case in his practice and which was removed by Dr. James Kerr. Dr. J. T. Johnson presented a large fibroma of uterus with tubes, removed from a patient over 65 years of age.

PHARMACY COMMISSIONER RESIGNED.—Dr. D. Wheaton Prentiss has resigned from the Pharmacy Commission and has been succeeded by Dr. W. P. Carr, Professor of Physiology in the Columbian Medical School. Dr. Prentiss has filled the position during the past ten years.

DR. J. RAMSEY NEVITT.—The local lay press, and the public generally, are loud in their praise of Dr. J. R. Nevitt, who has abandoned temporarily a large and lucrative practice to devote himself exclusively to the care of the smallpox hospital. This is a great sacrifice on his part because of the disgracefully poor accommodations provided by the authorities, which must necessarily interfere with the good results he would under other circumstances obtain.

INCREASE IN DEATH RATE.—There was an increase in the number of deaths last week as compared with that of the previous week. This rise in the death rate was not owing to any particular malady, but was apparently incidental. While the mortality from typhoid fever rose from four to nine, that from consumption declined from seventeen to thirteen. A case of what was judged to be chickenpox at first and afterward proving fatal, has been diagnosed as smallpox, occurred in the early part of last week. The disease was clearly discovered to have been contracted outside of the District. Every possible precaution known to human skill is being taken to prevent the spread of this disease, and confidence is felt that it can be confined to narrow limits. Otherwise, the health of the city, being comparatively free from contagious diseases, may be considered favorable.

FUMIGATION OF THE INTERIOR DEPARTMENT.—In consequence of the evident infection with smallpox, and the intense excitement at the Interior Department, Secretary

Hoke Smith, acting upon the advice of the Health Officer, suspended the public business on the 26th and 27th inst., and had the entire building fumigated. All the clerks have been directed to submit to vaccination before returning to duty or show that they enjoy immunity from the disease.

POISONOUS MUSHROOMS.—A fatal case of poisoning by toadstools occurred in Washington, D. C., October 17, last, the victim being Chung Yu Ting, a well-known young Chinaman who came to this country several years ago as interpreter in the suite of Ma King Chang, the Imperial Envoy to the United States from China when the late Chinese concessions were being made. When the work of the Envoy was completed, Chung remained in this country attached to the family of Count Mitkiewicz, at whose house his death took place. He had gathered what he believed to be just such mushrooms as he had eaten as a delicacy at his home in Foochow. He was much elated at his discovery, and against the protests of his friends he prepared and ate some of them. For a considerable time it is said, no ill effect was experienced; but about twelve hours after his indulgence terrible pains came on, and at the end of three days he died in great agony. Commenting on this case, Dr. Thomas Taylor, of the Department of Agriculture, says in an open letter:

"The mushrooms eaten in this case were undoubtedly the *amanita verna*, which, with *amanita muscaria*, are the most poisonous mushrooms known. There is but one antidote known for *amanitin* or *muscarin* poison, and that is sulphate of atropin. The use of atropin, as has been fully demonstrated, will quickly neutralize the effects of *muscarin* and *amanitin* on the nerve centers of the human system, as well as that of the lowest animals. The dose may be administered by means of hypodermic injection, or by the mouth in the usual way."

REPORT OF HEALTH OFFICER ON PRESENT OUTBREAK OF SMALLPOX.—About 7:30 last Sunday evening, Dr. H. R. Street reported a case which he thought might be smallpox. There was no history of exposure, but the patient, a colored girl, was a domestic in a family where a baby 1½ years old had died on the 13th inst., after two weeks' illness, and had been buried on the same day on a certificate signed by Dr. H. R. Street, giving the cause of death as "confluent varicella." Three physicians had seen the baby and none regarded it as smallpox.

The history of this case of the baby is interesting. Having spent the summer on a farm in South Pomfret, in the northern part of Vermont, she left there on September 14 with her parents, taking the train at Windsor and going from there to White River Junction, where they waited for a train from 9:30 A.M. until 10:30 A.M., leaving there at that time in a parlor car, on the White Mountain Express for New York, occupying the three end seats in the car. Reaching New York about 7:15 P.M., they crossed the city in a carriage and went on the ferry to the Pennsylvania depot in Jersey City. After waiting in the depot for about three-quarters of an hour, they took the two center berths in a sleeping car and came to this city, remaining in the car until morning, when they went to their home on the northeast section.

The child was taken sick on Sept. 30, the fever coming on first and eruption appearing in due time. A more detailed account of the illness will be published later. The child died October 13. Only such measures of isolation had been adopted as would suit any severe case of chickenpox, the father of the child continuing at his work in the Interior Department and a brother of the child attending school right along through the illness and up to the 22d inst., when the colored servant who had been employed in the house was positively known to have smallpox. This patient was removed to the smallpox hospital in charge of Dr. J. R. Nevitt, about 3 o'clock A.M., October 22. She had been sick all the summer and was in poor condition to endure the disease. She died on the 24th inst., the immediate cause of death being hemorrhage from the mucous surfaces of eyes, nose, mouth and genitals.

Since the first case, and not including the baby who died, there have been reported as follows:

Case No. 3, October 23. A colored girl who helped wash clothes at her home, from the house where the baby died.

Case No. 4, October 24. A colored domestic living in another section of the city, and in whose case no connection with any other has yet been traced.

Case No. 5, October 24. A messenger boy (white) employed in the Census Office, but who had been detailed for a few days to the Interior Department, where he came in contact with the father of the dead child.

Case No. 6, October 24. A clerk, (white, male) in the Interior Department, exposed as in Case No. 5.

Case No. 7, October 25. A clerk (white, male) in the Interior Department, exposed as in Case No. 5.

Case No. 8, October 26. A clerk (white, male) in the Interior Department, exposed as in Case No. 5.

Case No. 9, October 28. A messenger (colored, male) in the Interior Department, exposed as in Case No. 5.

Neither the father, mother nor brother have yet showed symptoms of the disease, the first having had varioloid and the latter two having been vaccinated about ten years ago. It is worthy of note, however, that in the case of the father, a vaccination is now taking in a typical manner.

All patients have been removed to the smallpox hospital. A quarantine station with accommodations for physicians and others brought in contact with the disease, and the ambulance and wagons used in the service, and steam apparatus for the disinfection of bedding, has been established. Rigid disinfection of all exposed rooms or articles is insisted upon. General vaccination is being practiced, and all who have been exposed to the disease are being kept under surveillance.

The present outlook is encouraging. The Health Officer would be glad of any information that will assist in tracing the source of the infection in the original case.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Oct. 20, 1894, to Oct. 26, 1894.

First Lieut. CHARLES F. KIEFFER, Asst. Surgeon, will be relieved from duty at Ft. Assiniboine, Mont., upon the return to that post of First Lieut. EDWARD L. MUNSON, Asst. Surgeon, from duty in the field, and will then report for duty at Ft. Buford, N. Dak.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the two weeks ending Oct. 27, 1894.

Surgeon J. G. AYERS, from Navy Yard and Hospital, Portsmouth, N. H., and to his home and wait orders.

Medical Inspector F. L. DUBOIS, ordered to Navy Yard and Hospital, Portsmouth, N. H.

Asst. Surgeon F. G. BRATHWAITE, ordered to temporary duty at Naval Hospital, New York.

P. A. Surgeon S. G. EVANS, detached from Naval Hospital, New York, and to Naval Hospital, Mare Island, Cal., for temporary duty.

Asst. Surgeon M. R. PIGOTT, ordered to appear before Naval Examining Board at Navy Department, for examination preliminary to promotion.

P. A. Surgeon L. W. CURTIS, ordered to the Chelsea Hospital.

Surgeon M. H. CRAWFORD, ordered to the U. S. S. "Constellation."

Medical Director R. C. DEAN, President of Board of Medical Examiners, Navy Department.

Medical Director N. L. BATES, member of Board of Medical Examiners, Navy Department.

Medical Director MICHAEL BRADLEY, member of Board of Medical Examiners, Navy Department.

Medical Director W. K. SCOFIELD, President of Board of Medical Examiners, League Island, Pa.

Surgeon S. H. DICKSON, ordered to temporary duty on U. S. R. S. "Dale."

Surgeon C. U. GRAVATT, detached from U. S. R. S. "Dale," home and wait orders.

LETTERS RECEIVED.

Atkinson, Wm. B., Philadelphia, Pa.; Anderson, W. S., Detroit, Mich.

Cleary, W. P., New York, N. Y.; Chestnut, J. H. W., Philadelphia, Pa.; Crain, M. R., (2) Rutland, Vt.; Chambers, J. H. & Co., St. Louis, Mo.; Coyne & Still, The Advertising Agency,

Dutton, C. F., Cleveland, Ohio.

Ewing, F. C., Bartels, La.; Eureka Advertising Agency, Binghamton, N. Y.

Fuller, Geo. R., Rochester, N. Y.; Feick Brothers, (2) Pittsburg, Pa. Globe Man'fg Co., Battle Creek, Mich.; Garber, J. B. Dunkirk, Ind.

Holland, J. W., Philadelphia, Pa.; Holloway, W. F., Cuyahoga Falls, Ohio; Hubbard, Thomas, Toledo, Ohio; Highly, George N., Conshohocken, Pa.; Hummel, A. L., Philadelphia Pa.

Ingals, E. F., Chicago, Ill.

King, Jas., Centreville, Ind.

Lentz, Chas. & Sons, Philadelphia, Pa.; Lehn & Fink, (2) New York, N. Y.

Mishoff, I. D., Milwaukee, Wis.; Mattison, J. B., Brooklyn, N. Y.; Medical Review Association, St. Louis, Mo.; Mackenzie, K. A. T., Portland, Ore.; Mercer, A. Clifford, Syracuse, N. Y.; Montizambert, F., Quebec, Canada; McArthur Hypophosphite Co., Ansonia, Conn.; Montgomery, E. E., Philadelphia, Pa.; Mattoon, E. A., Salida, Col.; Meacher, Wm., Portage, Wis.

Newman, E. H., Milwaukee, Wis.; Nichols, M. M., Hopland, Cal.; Nutt, G. D., Williamsport, Pa.; Newman, H. P., Chicago, Ill.

Ozone Company, The, Chicago, Ill.

Pierce, Lovick, (2) Washington, D. C.

Ring, Frank, St. Louis, Mo.

Starkey, H. M., Chicago, Ill.; Sands, W. P., New York, N. Y.; Steiger, E. & Co., New York, N. Y.; Sharp & Dohme, New York, N. Y.; Swift & Company, Chicago, Ill.; Stallard, J. H., San Francisco, Cal.; Schering & Glatz, New York, N. Y.; Smith, M. B., Minneapolis, Minn.; Smolley, J. G., Connersville, Ind.; Sander, Enno, St. Louis, Mo.

Tipton, J. S., Alsonia, Va.; The Bromine Co., New York, N. Y.; Terry, N. F., Springfield, Mo.

Willard, D. F., Philadelphia, Pa.; Wyman, Hal C., Detroit, Mich.; Wilber, Geo. D., Denver, Col.; Winton, H. N., San Francisco, Cal.; Wainscott, O. C., Peru, Ind.; Wyckoff, R. M., Brooklyn, N. Y.; Wyeth, John A., New York, N. Y.; Wertz, T., Evansville, Ind.